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Southern Hilltowns Water Supply Protection

Final Report

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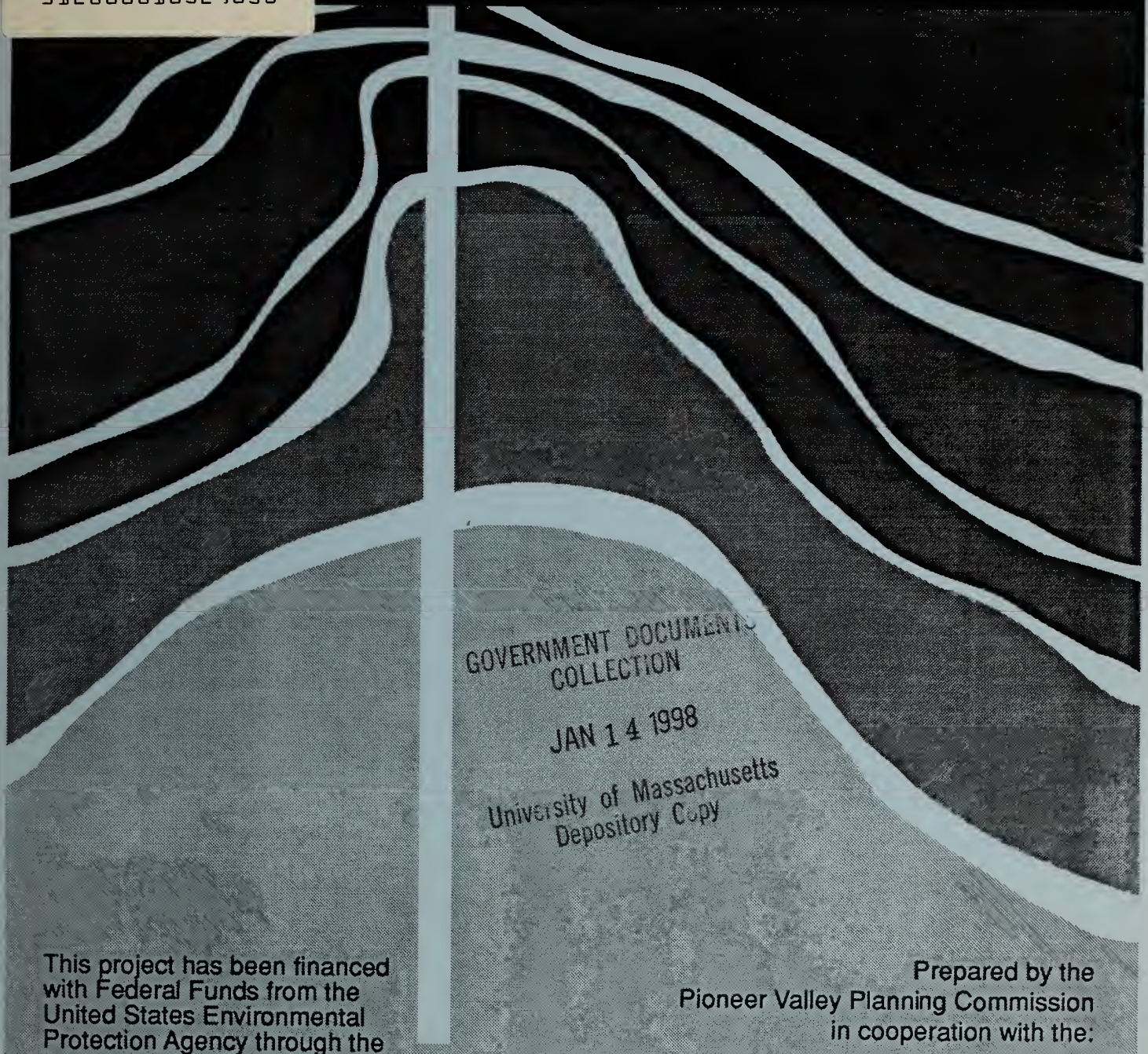

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Prepared by the
Pioneer Valley Planning Commission
in cooperation with the:

Blandford Water Supply Protection Advisory Committee
Granville Water Supply Protection Advisory Committee
Russell Water Supply Protection Advisory Committee

October 1993

SOUTHERN HILLTOWNS WATER SUPPLY PROTECTION

FINAL REPORT AND RECOMMENDATIONS

Prepared by the Pioneer Valley Planning Commission
In Cooperation with the:

Blandford Water Supply Protection Advisory Committee
Granville Water Supply Protection Advisory Committee
Russell Water Supply Protection Advisory Committee

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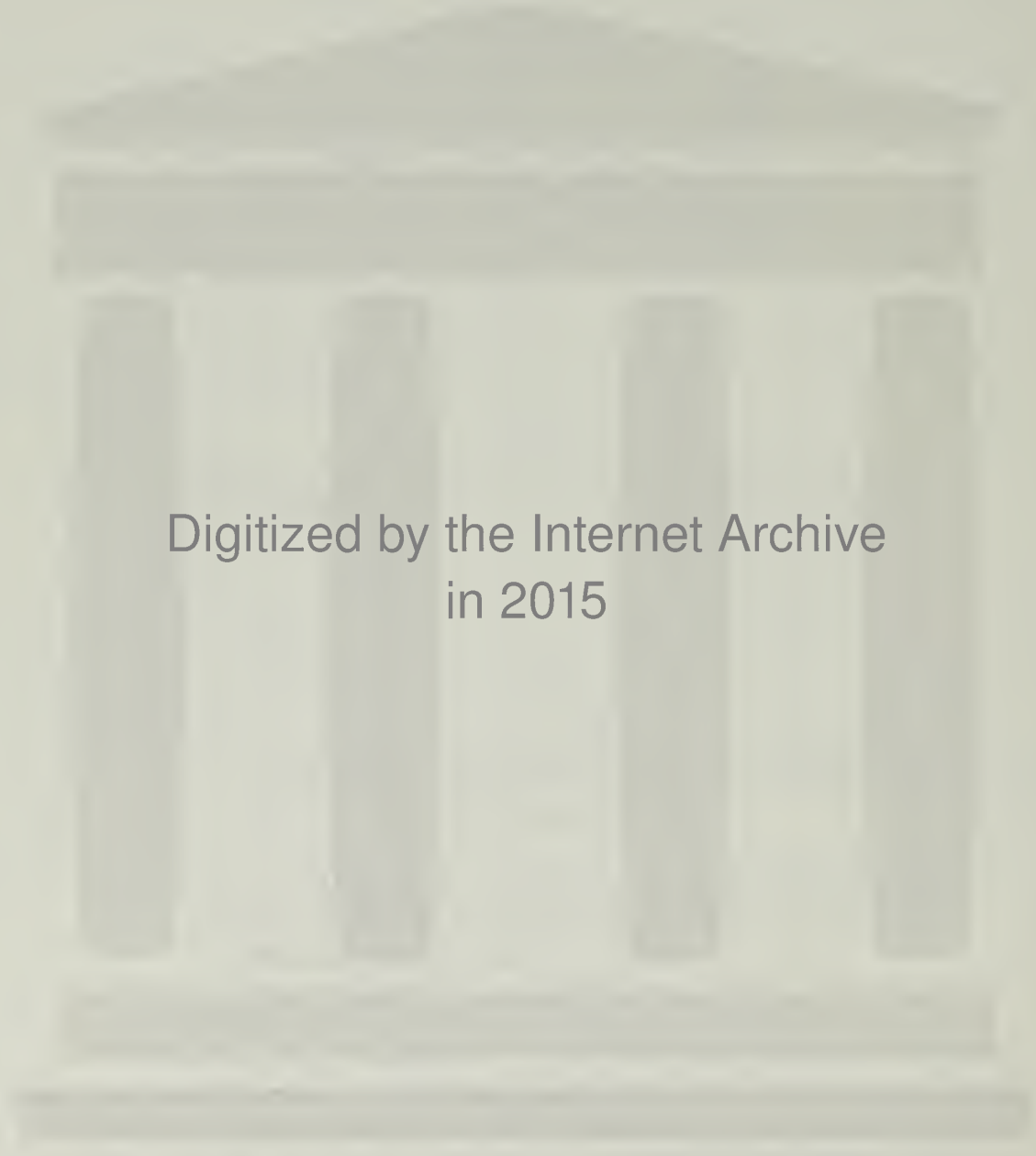
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SOUTHERN HILLTOWNS WATER SUPPLY PROTECTION
Final Report and Recommendations

September, 1993

Prepared by: Pioneer Valley Planning Commission

Staff Credits

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Acknowledgments

The Pioneer Valley Planning Commission would like to acknowledge the contributions of the members of the: Blandford Water Supply Protection Advisory Committee
Granville Water Supply Protection Advisory Committee
Russell Water Supply Protection Advisory Committee

Blandford	Granville	Russell
Paul Kvitek	Richard Woodger	George Tarbell
Donald Brainerd	Ed Jensen	Sharon Harrison
Theodore Jenson	Coralie Stevenson	Lyle Maxwell
Neil Woodburn	Richard Halpin	William Hardie
Ronald Champagne	Richard Knowner	
	David Blaze	
	Leon Ripley	

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1993 Final Report and Recommendations

Southern Hilltowns Water Supply Protection

Executive Summary

Background

The towns of Blandford, Granville and Russell, also called the Southern Hilltowns, are important drinking water supply sources. Collectively approximately 280,000 people in the Pioneer Valley Region drink water which originated from these communities. Watershed or aquifer recharge areas for Blandford's Long Pond Reservoir, Russell's well #1 and Black Brook Reservoir, Granville's Granville Center Water Company, Huntington's Cold Brook Reservoir and wells #1 and #2, Springfield's Borden Brook and Cobble Mountain Reservoirs, and Westfield's Granville Reservoir are located within these three communities. To date, the water quality from those sources has generally been excellent. The Pioneer Valley Planning Commission (PVPC), the Regional Planning Agency for Hampden and Hampshire Counties, received a grant from the Environmental Protection Agency through the Massachusetts Department of Environmental Protection under the Clean Water Act to provide technical assistance to these communities to protect the quality of water supplies for this and future generations.

Accomplishments

Pioneer Valley Planning Commission established water supply protection advisory committees in the three towns to prepare comprehensive water supply protection strategies. Maps were prepared to show water supplies sources and protection areas within those communities. Potential sources of contamination were identified and map overlays were prepared. These potential sources of contamination include both potential point source contaminants, such as gas stations and U.S.T.s, and potential non-point sources, such as Rights-of-Way. Based on an assessment of risks, comprehensive water supply protection strategies were developed for each community tailored to meet the needs and specific circumstances of those communities. Educational material was developed and distributed to explain the need for water supply protection, how local residents can participate in water supply protection actions, and the proposed water supply protection regulations.

Recommendations and Conclusions

The following recommendations were developed by the Citizen Advisory Committees in the three communities.

Blandford

1. Adopt a water supply protection overlay district zoning bylaw;
2. Adopt an underground storage system regulation;
3. Acquire important selected lands in the watershed;
4. Participate in regional efforts to protect water supplies.

Granville

1. Conduct a water supply protection educational campaign. (In addition PVPC recommended to the Granville committee that Granville participate in regional water supply protection efforts, adopt an underground storage system regulation, regularly inspect septic systems, and adopt a water supply protection overlay zoning bylaw. These recommendations were not adopted by the committee.)

Russell

1. Adopt a water supply protection zoning overly district bylaw.

Regional Action

1. In addition to protective efforts which may be adopted by the communities where the water supplies are located it is also recognized that cooperative action is need to adequately protect these important regional supplies. Cooperative action requires the active participation of all water suppliers with supplies in these three communities including the Springfield Water Department, Westfield Water Department, Huntington Water Department, and Hartford Metropolitan District Commission. Representatives from the three Southern Hilltown communities and water supplies should work together to discuss common water supply protection concerns and develop an action agenda for cooperative water supply protection activities, such as removal of U.S.T.s, inspection of septic systems, and household hazardous waste collection days.

SOUTHERN HILLTOWNS WATER SUPPLY PROTECTION

Final Report and Recommendations

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1.0 INTRODUCTION

The towns of Blandford, Granville, and Russell are important regional water supply resources. In addition to the small municipal or privately owned water systems serving the individual towns, this area, also called the Southern Hilltowns, contains the watersheds for two of the region's largest water supply systems: Springfield's Regional Water System and Westfield's Water System. Collectively, approximately 280,000 people are served by water which originates in the Southern Hilltown Area.

Within the last 20 years federal and state legislation has placed new demands on water suppliers, requiring multiple safeguards for the protection of public drinking water supplies. Increasingly, emphasis has been given to protection of water supply sources. The Safe Drinking Water Act (SDWA) which was signed into law in 1974 by the U.S. Congress mandated that the Environmental Protection Agency (EPA) establish national primary and secondary drinking water standards, maximum contaminant levels, and acceptable treatment techniques. Amendments to the SDWA in 1986 mandated that EPA establish disinfection requirements and criteria for filtration. The Surface Water Treatment Rules (SWTR) further established disinfection requirements and criteria for filtration. Concurrently, the Massachusetts Department of Environmental Protection (DEP) has developed policies and regulations to assure the public receives safe drinking water supplies.

In August 18, 1992, the Watershed Protection Act (WPA) was enacted in Massachusetts. Section 14 of the WPA directs the Massachusetts Department of Environmental Protection (D.E.P.) to promulgate regulations to protect water supplies throughout the state. In a report to the State Legislation DEP concludes that surface water supply protection is inadequate and recommends additional protection measures. The emphasis in the future will be on increased protection of water supplies, especially surface water supplies.

This plan and accompanying planning process sets forth a comprehensive, achievable water supply protection strategy for the communities of Blandford, Granville, and Russell, also known as the Southern Hilltowns.

1.1 Project Background and Organization

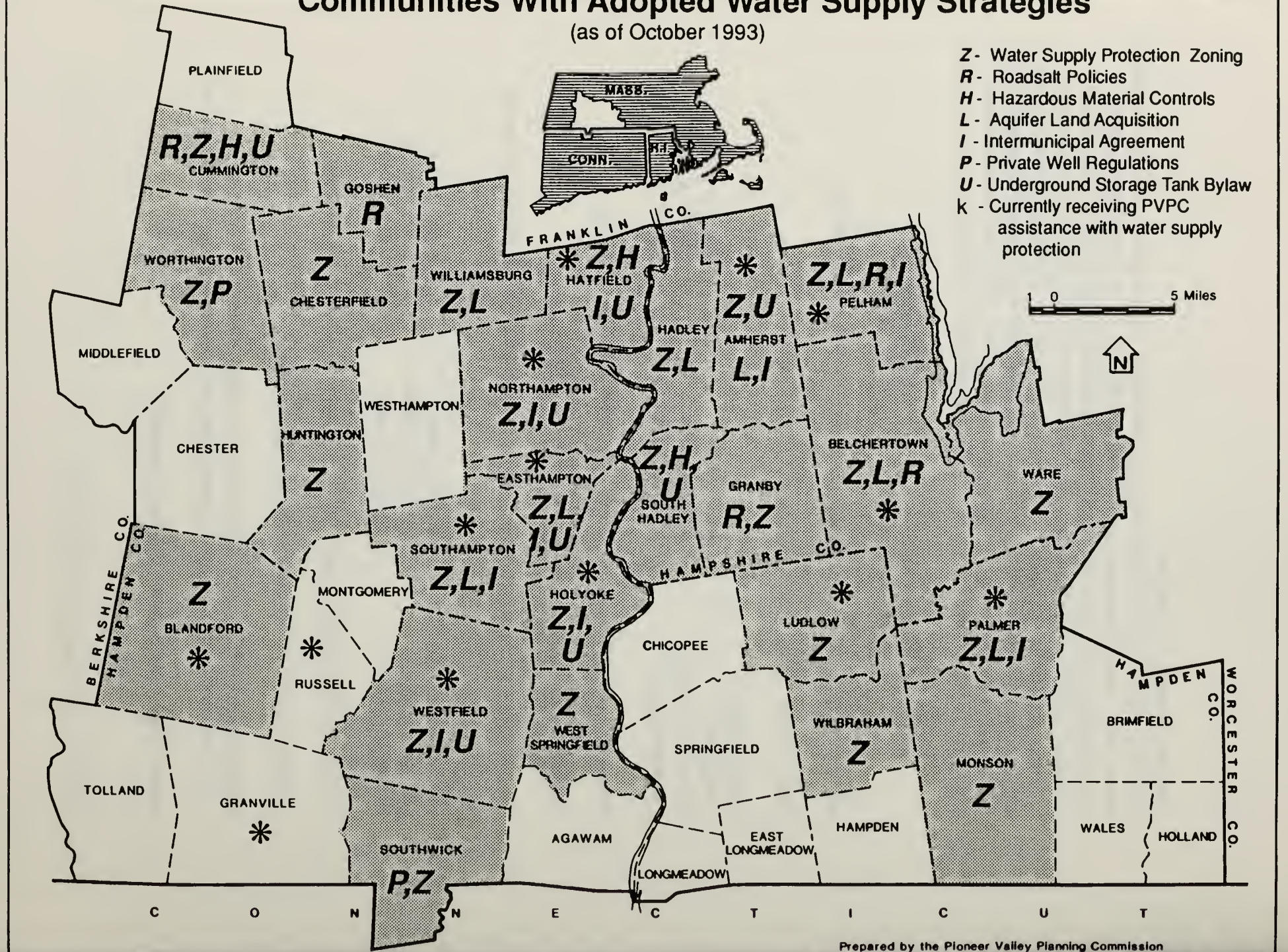
This project was undertaken under the direction of the Pioneer Valley Planning Commission (PVPC), the Regional Planning Agency for the 43 cities and towns in Hampden and Hampshire Counties. Since 1981, PVPC has worked with communities to design and implement comprehensive water supply protection strategies, including water supply protection zoning overlay districts, roadsalt policies, hazardous materials regulations, underground storage tank bylaws, and aquifer land acquisition. PVPC's efforts have now resulted in the adoption of one or more of these strategies in 26 member municipalities. These successful efforts have established effective working model bylaws and regulations which have been used and refined in municipal settings across the Pioneer Valley Region.

PVPC was able to participate in the Southern Hilltowns project with funding provided by the Massachusetts Department of Environmental Protection through the Section 604(b) grant funds. Section 604(b) funds are monies provided through the Federal Clean Water Act to the U.S. Environmental Protection Agency which are administered by or "passed-through" the state. In March 1991, PVPC applied for and received funding from the 604(b) program to provide technical assistance to communities in developing regional water supply protection strategies in Blandford, Granville, and Russell. In order to receive these competitive grant funds, a local match is also strongly suggested. PVPC and the City of Springfield provided funding for the local match for this project.

PVPC notified and met with Boards of Selectmen in the three towns asking them to establish Water Supply Protection Advisory Committees to guide and direct PVPC's efforts and determine what protective strategies would be appropriate for their communities. Advisory Committees were appointed in the three communities.

Communities With Adopted Water Supply Strategies

(as of October 1993)



2.0 LOCAL PLANNING PROCESS

2.1 Water Supply Protection Advisory Committees

Water Supply Protection Advisory Committees were established in Blandford, Granville, and Russell to assist PVPC in developing water supply protection strategies.

Blandford Water Supply Protection Advisory Committee

Members of the Blandford Water Supply Protection Advisory Committee are:

Donald Brainerd	Theodore Jensen	Neil Woodburn
Paul Kvitek (Chair)	Ronald Champagne	James Heinrich
Anne Chandler	Richard Hamel	Julie Mueller
Robert Deane*		

*Robert Deane asked to be removed from the Committee partially through the project.

Granville Water Supply Protection Advisory Committee

Members of the Granville Water Supply Protection Advisory Committee are:

Katherine Martin	Richard Woodger	Edward Jensen (Chair)
Coralie Stevenson	Richard Halpin	Richard Knoener
David Blaze	Leon Ripley	Doug Roberts
James Meadows		

Russell Water Supply Protection Advisory Committee

Members of the Russell Water Supply Protection Advisory Committee are:

George Tarbell (Chair)	Sharon Harrison
Lyle Maxwell, Jr.	William Hardie

In addition to participation of Advisory Committee members, representatives from adjoining communities with public water supplies were also informed of advisory committee meetings and participated in advisory committee meetings. Lyle Maxwell of Russell attended several Blandford Advisory Committee meetings. Edward Golden of Springfield attended several Blandford Advisory Committee meetings. Ester Dahill of Huntington and Charles Darling of Westfield were informed of advisory committee meetings in Blandford and Granville, respectively. Leland Sanders of the Metropolitan District Commission, which supplies water to Hartford, was also contacted. (The watershed for Hartford's Farmington Reservoir is partially located in Granville.)

2.2 Committee Meetings and Major Agenda Items

With technical assistance provided by PVPC Water Supply Protection Advisory Committees in Blandford, Granville, and Russell held regular meetings.

Blandford - Meetings of the Blandford Water Supply Protection Advisory Committee

Date	Major Agenda Items
November 18, 1992	- Summary of PVPC Assistance - Discussion of Water Supply Protection Concerns - Review of Work Maps - Regional Water Supply Protection Needs
December 9, 1992	- Work Meeting to Identify U.S.Ts
January 14, 1993	- U.S.T. Inventory and Regulations - Water Supply Protection Zoning
February 1, 1993	- Work Meeting with Selectboard
February 3, 1993	- U.S.T. Educational Materials - U.S.T. Bylaw - Use of Recreational Land in the Watershed
February 24, 1993	- Land Acquisition in Otis - Revised U.S.T. Educational Material - Water Supply Protection Zoning Bylaw
March 11, 1993	- Review/Revision of Water Supply Protection Zoning - Regional Participation in Otis land Acquisition
April 8, 1993	- Review/Revision of Water Supply Protection Zoning Bylaw - Inventory of Otis Watershed Land - Protection of Russell's Reservoir
April 29, 1993	- Review/Revision of Water Supply Protection Zoning Bylaw - Discussion of Road Salt Problem - Educational Flyer

Date	Major Agenda Items
May 20, 1993	- Regional Participation in Water Supply Protection - Review/Revision of Water Supply Protection Zoning Bylaw - Review/Revision of Educational Material
July 15, 1993	- Report on Potential Otis Land Acquisition - Implementation Planning
August 2, 1993 (Meeting with Blandford Planning Board)	- Review of Proposed Zoning Bylaw
September 13, 1993	- Meeting with the Blandford Planning Board to review the proposed Zoning Bylaw
September 28, 1993	- Public Informational Meeting

Granville - Meetings of the Granville Water Supply Protection Advisory Committee

Date	Major Agenda Items
February 22, 1993	- Meeting with Selectboard to Establish Committee and Discuss Scope of Work
April 15, 1993	- Review of PVPC Scope of Work - Review of Water Supply Maps - Water Supply Concerns for Blandford - Regional Participation
May 13, 1993	- Review of Inspection of Septic Systems Regulation - Review of Educational Material - Regional Participation Proposal - Review of U.S.T. Regulations
June 17, 1993	- Discussion of Granville Centre Water Co. Protection Needs - Educational Material Development/Distribution
July 27, 1993	- Development of Educational Material
September 14, 1993	- Review of Educational Material - Greater Regional Participation re: Household Hazardous Waste Collection

Russell - Meetings of the Russell Water Supply Protection Advisory Committee:

Date	**Major Agenda Items**
October 10, 1991 (Meeting with Russell Zoning Review Committee)	- Review of Scope of Work
March 2, 1992	- Summary of PVPC Technical Assistance - Review of Work Map of Recharge Areas - Discussion of Sources of Water Supply Contamination - Discussion of Russell's Water Supply Protection Concerns and Options
March 23, 1992	- Review and Discussion of Water Supply Protection Zoning Bylaw - Discussion of DEP Loss of Primary to Enforce the Safe Drinking Water Act
April 6, 1992	- Review and discussion of Water Supply Protection Zoning Bylaw (Restricted and Special Permit Uses) - Other Water Supply Protection Techniques
April 27, 1992	- Final Discussion/Approval of Water Supply Protection Zoning Bylaw - Discussion of Educational Material - Discussion of Implementation Strategy - Discussion of Proposed Changes to Title V
November 9, 1993 (Scheduled)	- Implementation Planning

(Appendix A contains copies of Meeting Minutes)

3.0 DESCRIPTION OF SOUTHERN HILLTOWN WATER SUPPLIES

Blandford

The Town of Blandford uses a single source of water for its publicly operated water supply: Long Pond Reservoir. Long Pond Reservoir consists of an 81 acre surface impoundment, being an impoundment of Wheeler Brook. The watershed consists of 392 acres of land. Approximately 300 acres, the land in Blandford, is owned either by the Springfield Water Department or the Town of Blandford. No development is permitted on this land. The remaining, approximately 90 acres, lies in Otis and is in private ownership. Development has recently occurred along Gibbs Road in Otis. The reservoir has a safe yield of .5 mgd. The 1992 average day demand was less than .1 mgd.

Approximately 80% of the 1,187 residents are on the public supply. The remaining population is served by individual on-site wells.

Russell

The Town of Russell uses two sources of supply for its publicly operated water supply: Black Brook Reservoir; and Well #1. Black Brook Reservoir is located in the neighboring Town of Blandford. The Town of Russell owns approximately 2,600 acres of watershed in Blandford, the entire watershed for the Black Brook reservoir. No development is permitted on this land. A small holding reservoir is located in Russell in close proximity to the Russell/Blandford town line. This reservoir is used for storage to distribute the supply from the Black Brook Reservoir. The entire reservoir system has a safe yield of .4 mgd. The 1991 average day demand of the Reservoir System was .19 mgd.

Well #1 is located at the corner of Pine Hill Road and State Route 20 in the center of Russell. Well #1 has a safe yield of .15 mgd. The 1991 average day demand of Well #1 was .9 mgd.

Approximately 85% of the town's 1,600 residents are served by the municipal sources of supply. The remaining population is served by individual in-site wells.

Granville

Most of the 1,403 residents of Granville receive their drinking water from private on-site wells. There is no publicly operated water supply system in Granville. Thirty-four families receive drinking water from the privately-owned Granville Centre Water Company. The Water Company receives its water from a well located off Blandford Road. The safe yield of the well is .02 mgd. The distribution system is limited with no opportunity for expansion.

Huntington

The Town of Huntington receives its water for its publicly operated water system from three sources: the Cold Brook Reservoir; and Wells #1 and #2. The wells are the main source of supply in Huntington. Water from the wells is pumped to the reservoir which acts as a storage tank. Cold Brook Reservoir and the surrounding watershed is located entirely in Blandford along the Huntington/Blandford town line. Part of the Interim Wellhead Protection Zone for Huntington's wells is located in Blandford.

Springfield

The Springfield Water Department services the 157,000 residents of Springfield. In addition, the Water Department sells water to the communities of Westfield, West Springfield, Southwick, Agawam, Longmeadow, East Longmeadow, and Ludlow. In addition, Wilbraham, Chicopee, and South Hadley have previously utilized Springfield Water Department water. An estimated 226,510 people are serviced by the Springfield Water Department.

The Springfield Water Department receives its water from four sources: Borden Brook, Cobble Mountain, Littleville and Ludlow Reservoirs. Littleville Reservoir is a supplemental reservoir and is not now in use. Ludlow Reservoir, located in Ludlow, primarily serves the residents of Ludlow. The Cobble Mountain and Borden Brook Reservoirs are the main Springfield sources of supply. Water from the Borden Brook Reservoir flows into Cobble Mountain. Cobble Mountain has a capacity of 22.5 billion gallons. Borden Brook has a capacity of 2.5 billion gallons. The safe yield of the Borden Brook/Cobble Mountain system is 55 mgd. The 1992 consumption for the Springfield system was 41.4 mgd. The 31,040 acre watershed for the Cobble Mountain Reservoir is located in the towns of Otis, Blandford, Russell, Tolland, and Granville. The reservoir itself and most of the watershed is located in Blandford. Springfield owns approximately 41% of the land in the watershed, or approximately 12,700 acres.

Westfield

Westfield's Granville Reservoir, the main source of supply for the Granville-Winchell-Sackett Reservoir system is located in Granville. The capacity of the reservoir system is 630 mg. The Reservoir is part of a larger supply source for Westfield consisting of several groundwater supply sources. Contamination of several of Westfield's wells has resulted in increased reliance on the surface water supplies. Westfield owns approximately 85% (3,480 acres) of the 4,096 acre watershed.

Southern Hilltown Water Supplies

Municipal Operated Supply	Supply Source	Location of Watershed or Recharge Area
Blandford	Long Pond Reservoir	Blandford and Otis
Russell	Black Brook Reservoir	Blandford
	Well #1	Russell and Blandford
Huntington	Cold Brook Reservoir	Blandford
	Well #1	Huntington, Chester, Blandford
	Well #2	Huntington, Chester, Blandford
Springfield	Cobble Mountain Reservoir	Otis, Blandford, Russell, Granville, Tolland
	Borden Brook Reservoir	Granville, Blandford, Tolland
Westfield	Granville Reservoir	Granville
	Winchell Reservoir	Granville

Note: EPA and DEP has a specific set of definitions to define Public Water Systems (PWS). A PWS is defined as a system which has at least 15 service connections or regularly services an average of at least twenty-five individuals daily for at least 60 days a year. PWS's are further defined as being Community Water Systems, Non-Transient Non-Community Water System or Transient Non-Community Water System. The use of the term publicly operated in this document does not necessarily strictly adhere to the EPA definition but refers to those systems either owned or operated by a public entity, such as a city or town or fire district.

4.0 DEVELOPMENT OF WATER SUPPLY MAPS

4.1 Development of Water Supply Protection District Map

The Southern Hilltown Water Supply Protection Area Map illustrates regional water supplies in the towns of Russell, Blandford, and Granville. Water supplies for Russell, Blandford, Granville, Huntington, Westfield and the City of Springfield's regional supply network are located within this area.

A reproducible base map was prepared for the Southern Hilltowns area entitled "Southern Hilltowns Water Supply Protection Area". This map was based on the United States Geologic Survey Topographic maps and is at a scale of 1:25,000. This map shows the location of all public wells, Zones I, II, and III, primary, secondary, and tertiary recharge areas for public wells and watershed areas for public water supply reservoirs.

Russell

For the Town of Russell, the Southern Hilltown Water Supply Protection Area map illustrates the following features:

1. The watershed area for Russell's Black Brook Reservoir and Russell Reservoir. The watersheds for Russell's two reservoirs lies predominantly in Blandford, and were mapped based on surface contours.

2. The primary, secondary, and tertiary aquifer recharge areas for Russell's Well #1. The protection area for Russell's Well #1 includes two components. The primary recharge area encompasses areas with a surficial geology of sand or sand and gravel and a transmissivity of greater than 100 feet squared per day. The secondary recharge area encompasses areas with a surficial geology of till or bedrock, which are within the watershed of the well or of Stage Brook, which may contribute water to the well through induced recharge.

3. The watershed area for Springfield's Cobble Mountain Reservoir. The watershed area for Springfield Cobble Mountain Reservoir was mapped based on surface contours.

Based on the Southern Hilltown's Water Supply Protection Map, a Russell Water Supply Protection District Overlay Zoning Map was created. This Overlay Map was created at a scale consistent with Russell's Zoning Map (1" = 1,000 ft) and is intended to be a part of Russell's Zoning Bylaws.

Blandford

For the Town of Blandford, the Southern Hilltown Water Supply Protection Area map illustrates the following features:

1. The watershed area for Blandford's Long Pond Reservoir. Mapping was based on surface contours.

2. The watershed area for Springfield's Cobble Mountain and Borden Brook Reservoir's. Mapping was based on surface contours.

3. The watershed area for Russell's Black Brook and Russell Reservoirs. Mapping was based on surface contours.

4. The secondary and tertiary recharge areas for Russell's Well #1. The secondary recharge area encompasses areas with a surficial geology of till or bedrock which are within the watershed of the well. The tertiary recharge area is an area of till or bedrock within the watershed of Freeland Brook which may contribute induced recharge to the well.

5. The watershed area for Huntington's Cold Brook Reservoir. Mapping was based on surface contours.

6. The secondary recharge area and interim wellhead protection area for Huntington's Wells #1 and #2. Mapping was based on areas of sand and gravel which directly recharge the wells, areas of till or bedrock within the watershed of the well and a ½ mile circle drawn around the well.

The Southern Hilltown Water Supply Protection Area Map was intended to serve as the zoning map for the overlay district proposed as part of the protective strategy.

Granville

For the Town of Granville, the Southern Hilltown Water Supply Protection Area map illustrates the following features:

1. The watershed area for Springfield's Cobble Mountain and Borden Brook Reservoirs. Mapping was based on surface contours.

2. The watershed area for Westfield's Granville and Winchell Reservoirs. The mapping was based on surface contours.

3. The watershed area for the Granville Centre Water Company Springs (no longer in use). Mapping was based on surface contours.

4. The primary recharge area and interim wellhead protection zone for the Granville Centre Water Company Well. Mapping was based on sand and gravel deposits.

5. The primary recharge area for a U.S.G.S. observation well located in Granville. Mapping was based on sand and gravel deposits.

PVPC staff reviewed all available hydrogeological data for the Southern Hilltowns area, and used the following primary data sources for the aquifer recharge area and watershed boundaries:

1. "Water Resources of the Westfield and Farmington River Basins, Massachusetts" by Anthony Maevsky and David Johnson, U.S. Geological Survey;

2. "Water Supply Atlas - Drainage Basin Overlay" by Massachusetts Department of Environmental Protection, 1982.

4.2 Development of Contamination Source Map Overlays

PVPC created two contamination source map overlays to be used with the Southern Hilltowns Water Supply Protection Area Map to show possible sources of contamination in the recharge and watershed areas; an Underground Fuel Storage Tank Overlay Map; and Potential Sources of Water Pollutants Map. These overlays, and accompanying inventories served to identify the primary threats to water quality in the Southern Hilltowns area. The maps were created as overlay maps and are intended to be used with the previously described base map.

a. Underground Storage Tank Overlay

The Underground Storage Tank Overlay shows the location of underground storage tanks in the Water Supply Protection District. (Refer to Appendix B for a list of underground storage tanks to accompany the overlay map.)

Where known and available, this map shows the size and location of underground storage tanks.

Blandford

The information on U.S.T.s in Blandford was obtained from the Blandford Fire Chief and a review of fire department records. Additionally, members of the Blandford Water Supply Protection Advisory Committee identified tanks and locations. The Blandford Water Supply Protection Committee reviewed a list of property owners provided by the Blandford Assessors. Those properties where U.S.T.s were known to exist were identified on a U.S.G.S map and the approximate location of the tank plotted. Fire Department records had information about the commercial tanks. There were no available town records about residential tanks. In Blandford there are 29 U.S.Ts in use in, or in close proximity to, the water supply protection areas. Most of these tanks are located at the Massachusetts Turnpike Authority rest area. There are only 9 known residential tanks. There may be more tanks not known by committee members.

Granville

The information about Granville's U.S.Ts was obtained from the Fire Chief. Granville information was only available for commercial tanks. There is no known information about residential tanks. Four commercial tanks were identified as being in the water supply protection area by the Fire Chief. No residential tanks were identified. There may be other tanks, especially residential or agricultural not known by the Fire Chief.

Russell

The information about U.S.Ts in Russell's water supply protection areas was obtained from the Russell Fire Chief. Only two commercial tanks were identified. No residential U.S.Ts were known to be in the water supply protection area. There may be U.S.Ts not known by the Fire Chief.

b. Potential Sources of Water Pollutants Overlay Map

The Potential Sources of Water Pollutants Overlay Map shows the location of potentially hazardous land uses within the Water Supply Protection District. This map shows the locations of transmission lines, railroads, major highway corridors, commercial or industrial uses which may store hazardous materials, potentially hazardous land use, such as agricultural cropland, excavation sites, golf courses, and landfill, dumps or transfer stations. In addition, information was researched about NPDES permits, groundwater discharge permits and large and small quantity generators of hazardous waste. This information was obtained from field research and the 1985 Land Use Map from Resource Mapping, Department of Forestry, UMASS. (Refer to Appendix C for a list of potentially hazardous land uses in, or in close proximity to, the identified Water Supply Protection Areas.)

5.0 ANALYSIS OF RISKS AND CONTROL MEASURES

5.1 Analysis of Risks

The Towns of Blandford, Granville, and Russell are small rural communities which serve as suburbs to the cities of Westfield, Springfield and, to a small degree, Hartford. The predominant land use in these communities is undeveloped open, predominantly forested, land. In Blandford 31,032 of the 34,174 (91%) acres in town are forested. In Granville and Russell 25,339 of the 27,656 acres (92%) and 10,446 of the 11,483 acres (91%), respectively, in the towns are undeveloped open land, predominantly forest land.

There are few industrial and commercial uses in these communities and few potential point source pollution sites. The three largest industrial uses in the three communities, Westfield River Paper Co, Strathmore Paper Company and USM Texicon Inc. are located outside of an aquifer recharge or watershed area.

There are 496, 470, 427 single family, detached housing units in Blandford, Granville and Russell respectively. There is the potential for non-point source pollution from these houses. Only few of these houses are in water supply protection areas but there still is the limited potential for non-point source pollution from septic systems, application of household fertilizers and pesticides and illegal dumping of household hazardous waste. There are no municipal sewers in Blandford or Granville. In these two towns household wastewater is treated by on-site wastewater treatment facilities, i.e. septic systems. Russell has a municipal treatment plant which services the town center, where both the recharge area and highest population density is located.

Agricultural use within these communities is minimal. In 1985 744 acres were in tilled agricultural production in the town of Blandford. In Granville and Russell 1061 and 72 acres respectively were in tilled agricultural production. Within the water supply protection areas identified on the Southern Hilltown Water Supply Protection Area Map 875, 739, and 49 acres are estimated to be in agricultural production, including not only filled land but also pasture and forage crops. There is the potential for non-point source pollution from application and storage of pesticides and manure from the agricultural land use. Forestry uses are widespread within these three communities. The exact amount of land in forest production is not known at this time. Given the generally steep slopes found in the region there is the potential for non-point source pollution of water supplies from forestry uses, unless, forestry best management practices are strictly adhered to.

The three communities are traversed by major highway corridors. The Massachusetts Turnpike crosses Russell and Blandford. In Russell the Turnpike skirts the water supply. In Blandford, the Turnpike crosses sections of the northern boundary of the water supply protection area. Often the turnpike forms the watershed divide. The water supply protection area in Russell is crossed by State Route 20, a major east-west highway. State Route 23 crosses the water supply area in Blandford. In places in Blandford the turnpike and Rt. 23 run parallel to each other. In one such area private wells of houses located

between the narrow strip of land between the turnpike and Route 23 recorded excessive concentrations of salt, most probably from road salt applications to the two highways. State Route 57 serves Granville but has a minimal impact in the water supply area.

The following section a identifies specific potential water supply contamination sources within the communities.

Blandford

Mining and Excavation

There are three sand and gravel excavation sites in Blandford which are no longer in use. Two are within the watershed boundary and one within the aquifer recharge area. There is another site in active use within the watershed boundary. Chester Granite, a granite quarry, is also located in Blandford near the Chester town line.

Abandoned Vehicles

The Town of Blandford contains a small number of known abandoned vehicles within the watershed at identified sites.

Blandford General Store

The general store is a possible source of water supply contamination because of the gasoline tanks (which are currently not used commercially).

Public Works

The Blandford Highway Department Garage houses the towns vehicles and has an underground storage tank.

Salt Storage

Blandford's salt storage area is located at the Highway Department's garage. The Massachusetts Turnpike Authority also keeps a salt storage area in Blandford located at its maintenance garage.

Massachusetts Turnpike Authority

The Massachusetts Turnpike Authority maintains a maintenance garage and two rest areas in Blandford. The rest area west of the turnpike consists of a service station. The rest area to the east consists of a service station and fast food restaurant. U.S.T.s were recently replaced at these areas.

Other

No groundwater discharge permits or large and small quantity generators of hazardous waste are known to operate in Blandford.

Granville

Mining and Excavation

There is one known sand and gravel excavation site operating within the water supply protection area in Granville.

Abandoned Vehicles

The Town of Granville contains a small number of abandoned vehicles within the watershed at specific sites.

Granville General Store

The general store contains underground storage tanks which could contaminate water resources.

Salt Storage

Granville's salt storage area is located at the High Department's garage and is within the water supply protection area.

Transfer Station

There is no transfer station or landfill areas in Granville in the water supply protection area.

Other

No groundwater discharge permits or large and small quantity generators of hazardous waste operate in Granville. Town Line Auto Salvage is a junk yard operating near the Westfield town line and may contain hazardous materials. Humphry's Garage (located within the water supply area) is an auto repair shop and contains underground storage tanks.

Russell

Mining and Excavation

There are no known mining or excavation operations in the Town of Russell in the water supply protection area.

Abandoned Vehicles

No known abandoned vehicles exist in the water supply protection area in Russell.

General Store

There is a Cumberland Farms Store in Russell which operates a gas station.

Public Works

The Town's Highway Department houses the town's vehicles and is a possible source of water contamination. At a separate location, there is another public works garage located at the Fire Department.

Salt Storage

Russell's salt storage area is located at the town's transfer station.

Transfer Station

The Town of Russell operates a transfer station in the water supply protection area.

Other

There are no known groundwater discharge permits issued in Russell. There are a few small quantity generators of hazardous waste. These include: Citgo Gas Station, Westfield River Paper Company, Strathmore Paper Company, and USM Texicon Inc. The paper companies and Texicon are near, but beyond the water supply protection boundary.

Municipal Land Use (Acres - 1985)

Land Use Type	Municipalities		
	Blandford	Granville	Russell
Residential	631.26	621.09	476.33
Commercial	9.50	16.03	24.99
Industrial	13.48	36.82	52.53
Transportation	337.40	4.00	93.07
Urban Open	54.79	51.89	36.65
Outdoor Rec.	223.20	37.07	50.97
Undev. Open	31,031.58	25,338.60	10,445.87
Water	1,137.80	489.97	230.59
Tilled Land	743.98	1,060.54	72.00
Total	34,173.50	27,656.01	11,483.00

Source: Resource Mapping - Land Information Systems, Department of Forestry and Wildlife Management UMASS

Agricultural Land in the Water Supply Protection Area (Acres - 1985)

Blandford	875.34
Granville	739.25
Russell	48.79

Source: Resource Mapping - Land Information Systems, Department of Forestry and Wildlife Management, UMASS

5.2 Control Measures

Blandford

Blandford has a water supply protection zoning district which covers solely the Long Pond watershed. There is no water supply protection zoning which protects other regional water supplies in Blandford.

Blandford's Conservation Commission stringently enforces a 100 ft. set back from water bodies for new septic systems.

Blandford's Board of Health imposes regulations stricter than the state Title V regulations.

There are no other local control measures in Blandford targeted for water supply protection.

Russell

There is no water supply protection district zoning in Russell.

Russell relies on Title V regulations for septic system approval.

There are no other local control measures in Russell specifically targeted for water supply protection.

Granville

There is no water supply protection district zoning in Granville.

There are no other local control measures in Granville specifically targeted for water supply protection.

6.0 RECOMMENDED WATER SUPPLY PROTECTION STRATEGIES

After consideration of the potential threats to drinking water supplies, existing control measures, capacities of part-time volunteer officials to carry-out and enforce the strategy, and the likelihood of adoption, a comprehensive water supply protection strategy was prepared for each community by PVPC. The general process employed to develop comprehensive municipal water supply protection strategies by PVPC for this project is as follows:

- PVPC and Advisory Committee Members conducted a discussion of water supply protection needs and concerns within the community.
- PVPC prepared a "menu" of protective options available to communities.
- Advisory Committee members selected options from the menu for further consideration and study.
- PVPC prepared recommended model bylaws, regulations, policies, etc. for the options selected by the Committees.
- Committee members studied model material, modified it as necessary to meet the needs of the community and either recommended adoption by the community or recommended the option be dropped.
- PVPC prepared the final bylaws, regulations, etc., educational material and an implementation strategy. PVPC assisted with implementation.

The communities of Blandford, Granville, and Russell are small communities. Town Boards and Officials, such as the Planning Boards, Boards of Health, Conservation Commissions, Zoning Enforcement Officers, and Selectboards are comprised of part-time volunteers. Many volunteers serve on more than one board. There are no paid, full-time planning staff in these communities. The Zoning Bylaws, Town Bylaws, and other local laws and regulations are for the most part unsophisticated. For instance, in Blandford there has not been an amendment to the Zoning Bylaws for many years. In rural communities, such as these, regulations are difficult to adopt or change. Granville tried at four different town meetings to have changes to the Zoning Bylaws adopted before it was ultimately successful. The strategies which were recommended by Committee Members reflect these community characteristics.

Blandford

Recommendation #1: Adopt a Water Supply Protection Overlay District Zoning Bylaw

The Blandford Town Meeting should adopt a Water Supply Protection Overlay District Zoning Bylaw. This bylaw, which would need to be approved by a two-thirds majority of town meeting voters, would contain changes to Blandford's Watershed Protection District Bylaw recommended by D.E.P. to allow Blandford to continue to qualify for a waiver from filtration for Long Pond Reservoir. The bylaw would apply to the watersheds of Long Pond Reservoir, Cobble Mountain Reservoir, Black Brook Reservoir, Cold Brook Reservoir, the secondary and tertiary recharge areas for Russell's Well #1 and the secondary recharge area for Huntington's Well #2.

The zoning bylaw would prohibit or restrict certain hazardous land use within the overlay district, prohibit new underground storage tanks, and specify certain performance standards to reduce run-off. New permitted commercial and industrial uses would need a special permit in water supply areas. A setback from streams which supply reservoirs, similar to a setback from roads, would be required of new development. (See Appendix D for a copy of the bylaw.)

Recommended by the Water Supply Protection Advisory Committee

Recommendation #2: Adopt an Underground Storage System Regulation

The Blandford Town Meeting should adopt an Underground Storage System Regulation. This regulation would need to be approved by a majority of the voters at a Blandford Town Meeting. This regulation would apply to the entire town. The underground storage system regulations proposed for Blandford would require all current owners of USTs to register their tanks with the Blandford Fire Chief, regardless of the size or content of the tank. The installation of new tanks for home heating oil use would be required to be in a covered structure above ground, or in a basement, not buried in the ground. The replacement of underground tanks for gasoline in sensitive water supply areas would be allowed, consistent with existing state standards. New underground tanks for gasoline in sensitive water supply areas would be prohibited. Upon the transfer of property, underground tanks greater than 20 years of age would be required to be removed. No other existing underground tanks would be required to be removed.

Recommended by the Water Supply Protection Advisory Committee

Recommendation #3: Selected Acquisition of Important Land Parcels

The Town of Blandford should undertake a land acquisition strategy to purchase the remaining lands in the watershed in Otis, approximately 88 acres, not in municipal ownership. Land along Gibbs Pond in Otis was subdivided into residential lots in the mid-1980's. Several lots were either developed or are in the process of development. Two parcels are currently for sale. These two parcels should be acquired. Since this land is in

the watershed for Springfield's Cobble Mountain Reservoir, the City of Springfield should assist Blandford with this acquisition. (See Appendix D for land prioritization analysis).

Recommended by the Water Supply Protection Advisory Committee

Recommendation #4: Greater Regional Participation

Blandford should participate with representatives from Huntington, Russell, Granville, Springfield, and Westfield in a regional initiative to protect regional water supply sources in this area. Participation in a regional water supply protection effort would allow Blandford to retain local control of important land use decisions, would allow the opportunity to access potential sources of funding for water supply protection activities, would help protect Blandford's public and private water supplies and could benefit Blandford residents by establishing a funding source for water supply protection activities. (See Appendix D for a copy of a regional protection proposal.)

Recommended by the Water Supply Protection Advisory Committee

Russell

The Town of Russell is mostly served by volunteer, part-time officials. For instance, there is no full-time health officer in Russell. The Committee felt that sophisticated water supply techniques were either unneeded (such as a U.S.T. registration bylaw) or would not be understood by residents and part-time officials and would not likely be adopted or enforced.

For these reasons the Russell Water Supply Protection Advisory Committee concentrated on the development and adoption of a Water Supply Protection District Overlay Zoning Bylaw. The proposed bylaw would prohibit new underground storage tasks, prohibit potentially hazardous commercial and industrial uses, specify performance standards for permitted commercial and industrial uses in outlying areas and limit residential lot sizes by the amount of sewage generated per lot. The proposed zoning bylaw is based on a Department of Environmental Protection approved model bylaw intended to meet the requirements of 310 CMR 22.00, new source approval regulations.

Recommendation #1: Adopt a Water Supply Protection Zoning Overlay District

The Russell Town Meeting should adopt a Water Supply Protection District Zoning Bylaw. This bylaw would apply to the primary and secondary aquifer recharge areas for Russell's Well #1, the watershed area for Russell's Black Brook and Russell Reservoirs, and the watershed area for Springfield's Cobble Mountain Reservoir.

The zoning bylaw would prohibit or restrict certain hazardous land use within the Overlay District, including some commercial and industrial uses, prohibit new underground storage tanks and specify certain performance standards for the replacement of existing gasoline tanks. Commercial and industrial uses, not prohibited, would be required to receive a special permit and conform to performance standards so as not to contaminate the water supply.

Minimum lot size in unsewered areas for new residential development would also be determined by the amount of sewage generated by the new houses. (Refer to Appendix E for a copy of the recommended bylaw.)

Recommended by the Russell Water Supply Protection Advisory Committee

Recommendation #2: Participate in a Regional Southern Hilltown Water Supply Protection Strategy

Russell and the neighboring towns of Blandford and Granville serve as regional water supplies. In addition to their own supplies, these towns serve as water supplies for Huntington, Westfield, and the City of Springfield's regional supply network. To protect these regional supplies, Russell should participate in these regional efforts. Participation in regional efforts will insure the Black Brook Reservoir receives adequate protection as well.

Recommended by the Russell Water Supply Protection Advisory Committee

Granville

Granville does not have a publicly operated water supply system. Except for a small number of families served by the private Granville Centre Water Company, Granville residents receive their water from private wells. There are few incentives for Granville residents to adopt municipal regulations to protect regional water supplies. Instead, the Granville Water Supply Protection Advisory Committee recommended that an extensive educational campaign be conducted. This educational campaign would be directed at Granville residents and instruct Granville residents in good "stewardship" practices which would protect private water supplies. Protection of private water supplies would have the ancillary effect of promoting several environmental protection practices and be beneficial to all regional water supplies.

Recommendation #1: Conduct Water Supply Protection Educational Campaign

The Town of Granville should conduct an extensive water supply protection educational campaign about water supply protection actions homeowners can take to protect drinking water supplies. Succinct, instructive, "how-to" informational flyers should be developed and distributed to every home in Granville. The topics to be covered should be: Underground Storage Tanks, Septic Systems, Private Wells and Household Hazardous Wastes. These flyers should be distributed monthly in the "Country Caller", the local Granville newsletter.

Recommended by the Granville Water Supply Protection Advisory Committee

Recommendation #2: Greater Regional Participation

The Town of Granville, along with Russell, Blandford, Huntington, Springfield, Westfield and the Hartford MDC should participate in a regional initiative to protect regional water supplies (See Appendix D.d. for a copy of the Regional Proposal).

The Granville Water Supply Protection Advisory Committee has not yet formally acted on this PVPC recommendation.

Recommendation #3: Adopt Underground Storage System Regulations

The Town of Granville should adopt Underground Storage System Regulations. These Regulations should contain provisions for the registration of all existing Underground Storage Systems, require that USTs over 20 years old be removed at the time of transfer of property, require that new tanks within the water supply protection areas be covered above ground or located within a basement, prohibit new USTs for the storage of gasoline in water supply protection areas, and allow for the replacement of existing underground storage tanks for gasoline, A similar aversion of this regulation has been adopted in eight communities in Hampshire and Hampden Counties (See Appendix F).

The Granville Water Supply Protection Advisory Committee decided not to pursue this PVPC recommendation.

Recommendation # 4: Require the Regular Inspection of Existing Septic Systems

The Granville Board of Health should require, as part of their annual licensing process, that septic haulers perform a simple inspection of all septic systems in town at the time of pumping and report their findings to the Board of Health. This report would be advisory only and alert the Board of Health to potential problems (Refer to Appendix F).

The Granville Water Supply Protection Advisory Committee decided not to pursue this PVPC recommendation.

Recommendation #5: Require the Inspection of Septic Systems when a Property is Sold

The Granville Board of Health should adopt a town wide regulation to require a septic system inspection by a certified engineer when a property is sold. If the system does not pass inspection that system should be required to be upgraded as necessary (Refer to Appendix F).

The Granville Water Supply Protection Advisory Committee decided not to pursue this PVPC recommendation.

Recommendation #6: Water Supply Protection Overlay Zoning Bylaw

The Town of Granville should adopt a water supply protection overlay district zoning bylaw. Adoption of this bylaw requires a 2/3 majority vote of Town Meeting members. Four years ago, as part of a comprehensive Growth Management Study for the Town of Granville, the Growth Management Study Committee recommended a water supply protection overlay district bylaw be adopted. A water supply protection zoning bylaw was prepared. It is recommended this bylaw be adopted by the Town. This bylaw would

prohibit certain hazardous land uses, restrict other land uses, specify drainage performance standards and set additional special permit criteria for uses allowed by special permit (See Appendix F for a copy of this bylaw).

The Granville Water Supply Protection Advisory Committee has not formally acted upon this PVPC recommendation.

Regional Water Supply Sources

The cities of Springfield, Westfield and Hartford, along with the smaller towns of Huntington and Russell, stand to gain the most from water supply protection activities in Granville and Blandford. Past relations between the larger cities and the smaller towns have been strained and at times adversarial. A cooperative approach to water supply protection between the larger suppliers and smaller communities would provide the greatest benefit. The larger suppliers would receive tangible water supply protection gains and the avoidance of future contamination problems and treatment costs. Small communities would receive the benefit of shared resources with the larger communities and protection of local municipal and public supplies.

Recommendation #1: Greater Regional Participation

The cities of Springfield, Westfield and Hartford along with Granville, Blandford, Russell and Huntington should participate in a regional initiative to protect regional water supplies. (See Appendix D.d. for a copy of a Regional Proposed).

This recommendation has not been formally approved by the municipalities.

7.0 PUBLIC EDUCATION AND STRATEGY ADOPTION

Public education is key for the successful adoption of water supply protection strategies and actions which promote clean, safe drinking water. Without a clear explanation of the problem, and clear explanation of the proposed solutions residents are not likely to employ best management practices or adopt new regulation. This is especially the case in rural towns like Granville, Blandford and Russell which have minimal land use regulations and strongly support personal free choice to conduct activities on private properties free from regulation.

The following educational and implementation components should be employed in the towns of Blandford, Granville, and Russell.

Blandford and Russell

1. An educational mailing should be distributed which explains basic water supply protection principles and proposed strategies.

2. A press release should be distributed explaining the proposed strategy.

3. An informational meeting should be held to explain the proposed strategies. A targeted mailing should be distributed to owners of U.S.T.s who might be affected by the proposed U.S.T. regulations.

4. A public hearing should be held on proposed zoning bylaws. Planning Boards should vote to support proposed bylaws.

5. After incorporating changes and comments from public hearings the Planning Boards should recommend that the Blandford or Russell Selectboards place the U.S.T. regulations (Blandford) and Zoning Bylaw (Blandford and Russsell) as articles on future town meeting warrants. (Annual Town Meeting are held in Spring 1994).

6. Town meeting voters should vote to approve the U.S.T. regulations and Water Supply Protection District Zoning Bylaws.

Granville

Granville should conduct its educational campaign at a regular monthly interval. Educational material should be distributed to every household in Granville with the Country Caller, Granville's informal monthly newsletter.

Regional Effort

The Pioneer Valley Planning Commission (PVPC) should, upon a request from the communities, coordinate a regional water supply protection cooperative effort. PVPC should contact communities representatives from the cities of Springfield, Hartford and

Westfield, and from the towns of Blandford, Russell, Granville and Huntington to determine if there is strong interest to promote cooperative water supply protection activities. PVPC should schedule a meeting in the late fall, 1993, early winter 1994 to encourage these activities.

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TM/im: 10/20/93

APPENDIX A

ADVISORY COMMITTEE MINUTES OF MEETINGS

RUSSELL WATER SUPPLY PROTECTION ADVISORY COMMITTEE
MINUTES OF MARCH 2, 1992
TOWN HALL
7:00 p.m.

Those Attending:

George Tarbell, Jr.
Sharon Harrison
Lyle Maxwell

PVPC Staff:
Tom Matuszko

1. Summary of the Pioneer Valley Planning Commission (PVPC) Assistance

Tom Matuszko provided a brief synopsis of technical assistance PVPC will provide to Russell. The scope of work was distributed to Committee members. Expected work products are a map showing water supply recharge areas, maps showing potential sources of contamination and USTs and zoning bylaws or other water supply protective techniques as deemed appropriate by the Committee.

2. Review of Work Map Recharge Areas

Tom presented a work map prepared by PVPC showing the primary and secondary recharge areas. Lyle Maxwell brought an assessor's map showing the location of the well. Lyle also explained that Russell owns all of the Watershed for the reservoir which is located in Blandford.

3. Discussion of Sources Water Supply Contamination

Tom briefly explained the approach many area communities have used to protect water supplies, which has been to prevent contamination before it occurs by regulating those hazardous land uses which may cause contamination.

4. Discussions of Russell's Water Supply Protection Concerns and Options

A discussion was held about the most likely sources of possible water supply contamination in Russell. Russell is not a town with many industries or businesses in the proposed water supply protection distrit which might contaminate water supplies. The greatest threat appears to come from Underground Storage Tanks (U.S.T.s) and residential septic systems contaminating private wells. The sense of the committee was to prevent new U.S.Ts within the water supply protection district. George felt that the existing Title V requirements, and Russell's strict interpretation of them, offer adequate protection from septic system

contamination. The committee directed Tom to prepare a water supply protection district zoning bylaw for discussion at the next meeting. The sense of the Committee was that it would apply to both the primary and secondary recharge areas, including the watershed area in the Southwest part of town for Springfield's reservoir.

5. Next Meeting

March 23, 1992
7:00 p.m.
Russell Town Hall

3/12/92:0919L

RUSSELL WATER SUPPLY PROTECTION ADVISORY COMMITTEE

Minutes of March 23, 1992
Russell Town Hall
7:00 p.m.

Those attending:

George Tarbell, Jr.
Sharon Harrison
Lyle Maxwell

PVPC Staff:

Tom Matuszko

1. Approval of March 2, 1992 Meeting Minutes

   The minutes of the meeting of March 2nd were approved as presented.

2. Discussion of Water Supply Protection Zoning Bylaw

   Tom Matuszko reviewed a draft copy of a proposed water supply protection district zoning bylaw. The bylaw was discussed and reviewed in detail. Sections reviewed were the purpose, definitions, scope of authority and district delineation, permitted uses, and prohibited uses. The bylaw was developed to meet D.E.P.'s new source approval regulations 310 CMR 22.00. The bylaw would work by defining an overlay district within which certain uses would be permitted by right, certain hazardous uses prohibited, other uses restricted and other uses allowed by special permit with certain conditions.

   A concern was raised about requiring all commercial uses to obtain a special permit, especially a small retail outlet such as a shoe store. This item is to be discussed at the next meeting.

   A concern also was raised about a possible future town garage next to the well.

   During the discussion about prohibiting underground storage tanks a question was raised about how to deal with existing tanks. Tom explained that education was the best approach.

3. Discussion of D.E.P. Loss of Primacy in Enforcing the Safe Drinking Water Act

   Tom distributed fact sheets and briefly explained the potential for DEP to lose primacy in administering the Safe Drinking water Act.

4. Next Meeting

   Monday - April 6, 1992
   7:00 p.m.
   Russell Town Hall

TM/fe:0924L

RUSSELL WATER SUPPLY PROTECTION ADVISORY COMMITTEE
MINUTES OF APRIL 9, 1992
TOWN HALL
7:00 p.m.

Those Attending:

George Tarbell, Jr.
Sharon Harrison
Lyle Maxwell

PVPC Staff:

Tom Matuszko

1. Approval of March 23, 1992 Meeting Minutes

   The minutes of the meeting of March 23, 1992 were unanimously approved.

2. Discussion of Water Supply Protection Zoning

   Discussion continued from the last meeting about the water supply protection district zoning bylaw. Of particular concern was the provision requiring all commercial uses within the water supply protection district to be by Special Permit. Tom explained that the purpose of this provision was to give the town some control over how development occurs so that, for instance, there would not be a large parking lot with a large impervious surface which would create run-off and the loss of recharge to the aquifer. The consensus of the members was that while this provision might be excessive, it would be best to leave it in the bylaw.

   Discussion again was raised about the need for a town municipal garage. The water supply protection overlay district would prohibit a municipal garage within the district. This might create a hardship for the town as the town owns land within the district which could be used as a site. The committee also requested that the Zoning Board of Appeals be the Special Permit granting authority. Tom was to inform Ronald Merritt, Chairman of the ZBA, and invite him to the next meeting.

3. Other Water Supply Protection Techniques

   Tom explained there were other water supply protection techniques communities could use, such as Underground Storage Tank Bylaws, Board of Health regulations for Septic Systems and/or Private Wells, Hazardous Materials Bylaws. The sense of the committee was that these techniques would be excessive for Russell at this time.

4. Next Meeting

   The next meeting is scheduled for:

   Monday, April 27, 1992
   7:00 p.m.
   Town Hall

TM/fe:0919L

RUSSELL WATER SUPPLY PROTECTION ADVISORY COMMITTEE
MINUTES OF APRIL 27, 1992
TOWN HALL
7:00 p.m.

Those Attending:

Sharon Harrison
Lyle Maxwell
Ron Merritt

PVPC Staff:

Tom Matuszko

1. Approval of April 6, 1992 Meeting Minutes

The minutes of the meeting of April 6th were approved as presented.

2. Water Supply Protection District Zoning Bylaw

Tom Matuszko presented the bylaw with the changes made from the previous meeting. All present agreed that this version of the bylaw would be the one presented to the town meeting for voter approval.

3. Educational Material

Tom Matuszko explained the informational "flyer" and draft press release. Those present thought the "flyer" did a good job explaining water supply protection issues. A suggestion was made to include specifics of contaminated wells in the area and the costs necessary to clean up or treat those supplies. Tom Matuszko to pursue.

4. Implementation Strategy

A proposed implementation strategy was discussed whereby each Committee member would discuss the proposed bylaw with each Board it represents and get endorsements from the Board. The Planning Board would hold a public hearing sometime in the fall (after October 15, which is the date of the bi-centennial celebration. Since the annual town meeting is the 2nd Monday in May, which in 1993 is May 10, the public hearing could not be scheduled before November 10). A vote on the bylaw would be scheduled for the Spring 1993 town meeting. The Russell votes would hopefully coincide with votes on water supply protection bylaws in the Towns of Blandford and/or Granville. Tom Matuszko will initiate a meeting of the Committee in the fall to keep the process moving.

5. Proposed Changes to Title V

Tom presented material, for information only, about proposed changes to Title V, the regulations which address septic systems. According to DEP's schedule, public hearings will be held in the late summer, early fall 1992, with new regulations being adopted by the end of 1993.

6. Other Business

Tom mentioned that a regional committee with representatives from communities which have water supplies or watersheds in Blandford might be established for water supply protection work in Blandford. Lyle Maxwell volunteered for this committee.

7. Next Meeting

Fall 1992

TM/fe:0919L

TIMOTHY W. BRENNAN
EXECUTIVE DIRECTOR

PIONEER VALLEY PLANNING COMMISSION
26 CENTRAL STREET, WEST SPRINGFIELD, MASSACHUSETTS 01089 (413)781-6045
FAX: (413) 732-2593

MINUTES OF
BLANDFORD WATER SUPPLY PROTECTION
ADVISORY COMMITTEE

DATE: November 18, 1992

LOCATION: Blandford Town Office Building

MEMBERS PRESENT:

__X__ R. Deane	___ C. Taylor
__X__ T. Jensen	__X__ D. Brainard
___ M. Kronholm	___ J. Heinrich
__X__ P. Kvitek	__X__ T. Matuszko (PVPC)

MINUTES SUBMITTED BY: Tom Matuszko

1. AGENDA ITEM: Summary of PVPC Assistance to be Provided Under the Section 604B Grant Program

   DISCUSSION: Tom Matuszko presented a brief report about the work PVPC intends to accomplish through the 604B grant program. These items were included in the scope of work, which was mailed with the earlier agenda. These tasks include mapping the watershed boundaries, preparing maps of potential sources of pollution and underground storage tanks, designing a protection strategy tailored to Blandford's needs, preparing educational material and taking the necessary steps to get the recommendations adopted.

2. AGENDA ITEM: Discussion of Water Supply Protection Concerns and Review of Work Maps

DISCUSSION: Tom Matuszko presented the committee with the work maps prepared by PVPC, one of the watershed boundaries and one an overlay showing potential sources of contamination. Committee members made several comments about and corrections/additions to the potential sources of contamination overlay. In the course of the discussion, the following water supply protection concerns were identified:

- Salt contamination from the Turnpike.
- Salt contamination to private wells along Route 23.
- Contamination from the septic system at the Turnpike rest area.
- The area of the Watershed in Otis not protected by a water supply protection bylaw.
- Paul reported about the water supply usage in Russell. There are 196 single family houses, 14 two-family, 21 summer houses, and 10 commercial.

3. AGENDA ITEM: Election of Chairman

DISCUSSION: Paul Kvitek was elected committee chairman.

4. AGENDA ITEM: Project Mapping Needs

DISCUSSION: Tom reported he would like to map the location of underground storage tanks. A working committee will meet Monday, December 9th to prepare this map.

5. AGENDA ITEM: Regional Water Supply Protection Concerns

DISCUSSION: Tom reported that Blandford is important for Springfield's, Huntington's and Russell's water supplies. He suggested it might be appropriate to consider those supplies when devising a strategy. He also suggested that representatives from those communities be invited to participate at these meetings. The committee was receptive to this idea. Tom will pursue.

NEXT MEETING: SCHEDULED FOR THURSDAY, DECEMBER 10, 1992
BLANDFORD TOWN OFFICE BUILDING
7:00 P.M.

3. AGENDA ITEM: Water Supply Protection Zoning

DISCUSSION: A discussion followed about improvements to Blandford's Water Supply Protection Zone. DEP requested that certain provisions, having to do with recreational use and logging be deleted from the zoning bylaw. This was recommended because the town owns ± 30 acres adjacent to the reservoir (part of a larger ± 300 acre parcel purchased through an eminent domain proceeding 6-8 years ago). There was confusion about whether or not the town, because the parcel was originally purchased for recreational purposes, could prohibit recreational use. Bob suggested the board of Selectmen discuss this at a meeting on February 1 and discuss how the parcel was purchased and what restrictions can or cannot be applied to it. Tom also presented the suggestion to develop an overlay zone to protect Springfield's watershed. This was just one of the techniques presented by Tom that Blandford could use to protect water supplies. Other techniques include hazardous materials bylaws, earth removal bylaws, septic system regulations, road salt policies and land acquisition. The sense of the committee was to pursue an overlay zone. Tom was to prepare.

NEXT MEETING: SCHEDULED FOR **WEDNESDAY, FEBRUARY 3, 1993**
7:00 P.M.
BLANDFORD TOWN OFFICE BUILDING

NOTE: A working meeting with the Selectmen to discuss town owned land abutting the reservoir is scheduled for Monday, February 1, 1993 at 7:30 p.m., Town Office Building.

MINUTES OF
BLANDFORD WATER SUPPLY PROTECTION
ADVISORY COMMITTEE

DATE: January 14, 1993

LOCATION: Blandford Town Office Building

MEMBERS PRESENT:

__X__ R. Deane	__X__ R. Champagne
__X__ T. Jensen	___ D. Brainard
__X__ N. Woodburn	___ J. Heinrich
__X__ P. Kvitek	__X__ T. Matuszko (PVPC)
____ R. Hamel	___ A. Chandler

MINUTES SUBMITTED BY: Tom Matuszko

1. AGENDA ITEM: Approval of November 18, 1992 Meeting Minutes

   DISCUSSION: Minutes of the meeting of November 18, 1992 approved as presented.

2. AGENDA ITEM: Underground Storage Tank (UST) Inventory

   DISCUSSION: Tom presented a work map and working list of the underground storage tanks in Blandford. There are relatively few (known) tanks in Blandford. Most of the known tanks are relatively new and are licensed. Tom also presented an informational flyer about the hazards of USTs. The strategy that was recommended was to insert the educational flyer, with a cover letter into the town report. Tom was to prepare a revised flyer and letter for review at the next meeting. Committee members also identified three other tanks. Committee members also requested an underground storage tank bylaw for review. Tom was to prepare that also.

MINUTES OF
BLANDFORD WATER SUPPLY PROTECTION
ADVISORY COMMITTEE

DATE: February 3, 1993

LOCATION: Blandford Town Meeting Offices

MEMBERS PRESENT:

___ R. Deane	___ R.Champagne
✓ T. Jensen	✓ D.Brainard
___ N.Woodburn	___ J. Heinrich
✓ P. Kvitek	✓ T.Matuszko (PVPC)
___ R. Hamel	

MINUTES SUBMITTED BY:

1. AGENDA ITEM: U.S.T Material

DISCUSSION: Committee members discussed the U.S.T flyer and letter which will go into the town report. Overall the material looked good. A suggestion was made to add all committee members as signaturies to the letter. A change was suggested regarding the cost to remove Tanks in the flyer. Tom was to make the changes and prepare a photo-ready copy for the next meeting.

2. AGENDA ITEM: U.S.T Bylaw

DISCUSSION: The Committee discussed the model U.S.T bylaw Tom prepared and distributed before the meeting. Concerns were raised about the total volume of material allowed to be stored in above ground tanks. Discussion was raised about an appropriate fee for registration - the figure of $10 - $15 was mentioned. A recommendation was made to remove the waiver procedure for the removal requirement in section 1.029. A suggestion was made to prohibit all residential U.S.T's in town to protect wells also. Questions were raised about the spill containment requirement for filler trucks. A suggestion was made to be sure to understand and be able to explain terms in the bylaw such as catholic protection and European Section piping. Tom was to make these changes for the next meeting. Overall the bylaw looked good and the Committee recommended proceeding with this as a recommended strategy.

3. AGENDA ITEM: Other Items

DISCUSSION: Tom reported no word from D.E.P about the D.E.P requirement to prohibit recreational use on the 30± acres of town owned land abutting the watershed.
Tom distributed a list of recommended water supply protection recommendations prepared by D.E.P. Tom also reported he had been in contact with Springfield. Springfield was very interested in this project, especially in light of increased D.E.P requirements.

NEXT MEETING: SCHEDULED FOR February 24, 1993
Blandford Town Office Building
7:00 PM.

MEETING NOTES
BLANDFORD WATER SUPPLY PROTECTION ADVISORY COMMITTEE

Meeting Date: February 24, 1993

Meeting Location: Blandford Town Hall

Due to the small number of attendees, Paul Kvitek, Don Brainard, Ron Champagne (for a part of the meeting), Tom Matuszko, this meeting turned into an informal working meeting.

UST Material

Tom brought the revised educational material to be inserted in the Town Report. Paul was to make sure it gets put in the report. Tom also brought the revised U.S.T. bylaw, which prohibits all U.S.T.'s for home heating oil.

Water Supply Zoning

Tom brought a water supply protection district zoning bylaw for review. This bylaw incorporates protection techniques to protect Springfield's Cobble Mountain Reservoir. Tom had talked with Jim Holeva about DEP's requirements for Blandford's Zoning Amendments.

Land Acquisition

There was a discussion about how to prepare an acquisition strategy for the ± 88 acres of the watershed which lies in Otis. This is the only portion of the Watershed which is not in Blandford's/Springfield's direct control.

Other Business

Contact time improvements - Paul was still interested in pursuing a CDBG grant for funds for improvements to the clorinator.

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TIMOTHY W. BRENNAN
EXECUTIVE DIRECTOR

PIONEER VALLEY PLANNING COMMISSION
26 CENTRAL STREET, WEST SPRINGFIELD, MASSACHUSETTS 01089 (413)781-6045
FAX: (413) 732-2593

MEETING NOTES
BLANDFORD WATER SUPPLY PROTECTION ADVISORY COMMITTEE

Meeting Date: March 11, 1993

Meeting Location: Blandford Town Hall

Due to the small number of attendees, Paul Kvitek, Don Brainard, Ed Golden, Tom Matuszko, this meeting turned into an informal working meeting.

Review of Previous Work
Because of the attendance of Ed Golden from the Springfield Water Department Tom Matuszko briefly reviewed the work to date, including a brief review of the UST bylaw and the accompanying UST material. It was the general consensus that the UST bylaw is in a final form and ready for town meeting vote.

Water Supply Protection Zoning Bylaw
Most of the meeting was dedicated to a discussion of a draft water supply protection zoning bylaw. The Committee reviewed the bylaw section by section and commented as appropriate. The general focus of the discussion was that the bylaw was too restrictive in regards to logging in those areas beyond Zone A, the area immediately adjacent to the reservoirs. The buffer strip along all rivers and streams in Zone C was too restrictive. On-site septic disposal systems should be consistent with, not more restrictive than, the Wetlands Protection Act. Tom was to note and make suggested changes. Further discussion of this item is needed before a final draft is prepared.

The question of whether the area around Russell's reservoir should be included was asked. Tom was to try to get Russell's participation at the next meeting.

Land Acquisition
Ed Golden mentioned the possibility of participating with Blandford in the acquisition of lands threatened by development in Otis if it can be shown to benefit both Springfield and Blandford. Tom was to try to research some of the parcel ownership and obtain and estimate of acquisition costs.

New PVPC DEP grant application
Tom presented a draft scope of services for a new PVPC work plan for regional watershed protection. Tom requested letters of support from Blandford and Springfield, as these are competitive grants.

Next meeting date: Scheduled for 7:30, Thursday, April 8, 1993 at the Blandford Town Office Building

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MEETING NOTES
BLANDFORD WATER SUPPLY PROTECTION ADVISORY COMMITTEE

Meeting Date: April 8, 1993

Meeting Location: Blandford Town Hall

Due to the small number of attendees, Paul Kvitek, Don Brainard, Ed Golden (Springfield), Lyle Maxwell, (Russell) Tom Matuszko (PVPC), this meeting turned into an informal working meeting.

Water Supply Protection Zoning Bylaw

Most of the meeting was dedicated to a discussion of a draft water supply protection zoning bylaw. Tom presented a revised version of the bylaw which incorporated changes from the previous meeting. The Committee reviewed the bylaw and changes, section by section, and commented as appropriate. Tom made changes to make the requirements regarding cutting to be consistent with the state law, the Forest Cutting Act. Restrictions within the various buffer strips were also clarified. A suggestion was made to add a bridging requirement for all stream crossings in Zone A.

Lyle Maxwell from Russell was present at the meeting and suggested that the Watershed for Russell's reservoir be included within the district covered by the bylaw.

The next question raised was whether or not Huntington's water supply areas should be included.

Otis Land Acquisition

Tom presented a copy of the Otis Assessor's map and an inventory of the property owners of land in Otis within the Blandford watershed. Parcel 12-15 is currently for sale, approximately 14 acres, asking price approximately $30.000. Paul, Don and Ed were to visit the parcel to see if an acquisition strategy should be developed for this parcel.

Next meeting date: Scheduled for 7:00-, Thursday, April 29, 1993 at the Blandford Town Office Building

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MEETING NOTES
BLANDFORD WATER SUPPLY PROTECTION ADVISORY COMMITTEE

Meeting Date: April 29, 1993

Meeting Location: Blandford Town Hall

Attendees: Paul Kvitek, Don Brainard, Bob Deane, Lyle Maxwell, (Russell) Tom Matuszko (PVPC).

Water Supply Protection Zoning Bylaw
Tom presented a revised version of the bylaw which incorporated changes from the previous meeting. The Committee reviewed the bylaw and the new changes and commented as appropriate. These changes incorporated the inclusion of the Russell Black Brook Reservoir in the overlay district, after consultation with Lyle Maxwell from the Russell Water Department. Special permit and restricted uses were also discussed. It was believed that requiring a monitoring well for gravel excavation was excessive, especially for small users. Tom reported he did not yet have an opportunity to contact Huntington

Otis Land Acquisition
Paul reported that he, Don and Ed had not had a chance to assess the Otis land yet.

Road Salt
Road salt is a problem in town especially along Route 23 from East Otis to Blandford. Tom to pursue with the MHD to try to get a reduced road salt policy in place.

Educational Material
Tom distributed an informational flyer to the Committee for their review about watershed protection, which is to be distributed to every household in Blandford. Tom will also prepare a summary of the key points in the proposed regulations, which will also be distributed.

Next meeting date: Scheduled for 7:00-, Thursday, May 20, 1993 at the Blandford Town Office Building

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MEETING NOTES
BLANDFORD WATER SUPPLY PROTECTION ADVISORY COMMITTEE

Meeting Date: May 20, 1993

Meeting Location: Blandford Town Hall

Attendees: Paul Kvitek, Don Brainard, Julie Mueller, Tom Matuszko (PVPC).

Water Supply Protection Zoning Bylaw
Tom presented a revised version of the bylaw which incorporated changes from the previous meeting. The Committee reviewed the bylaw and the new changes and commented as appropriate. These changes incorporated the inclusion of the Huntington water supply areas in the overlay district, clarified the distance for bridged crossing of streams for forestry practices, which feed the reservoirs, changed the requirement for monitoring wells for small excavation operations and clarified special permit requirements. The Committee suggested the Planning Board be the Special Permit Granting Authority and the threshold for small excavations be increased to 1,000 yards/year.

Discussion of Regional Water Supply Protection Effort
Tom presented a "working paper" on a draft proposal to encourage greater cooperation between the communities in the Springfield watershed and the City of Springfield. This could take the form of the establishment of a new regional group designed to promote regional water supply protection activities. After discussion, the Committee decided to proceed with this initiative.

Otis Land Acquisition
Paul reported that he, Don and Ed had not had a chance to assess the Otis land yet. Tom was to arrange a meeting with a representative from Springfield.

Educational Material
Tom distributed a summary of the key points in the proposed water supply protection strategy, including proposed new regulation, which will be distributed to all of the residents of Blandford. The Committee reviewed the material and suggested some changes to this fact sheet as well as the educational brochure which was distributed earlier.

Next meeting date: Scheduled for 7:00-, Thursday, July 20, 1993 at the Blandford Town Office Building

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MEETING NOTES
BLANDFORD WATER SUPPLY PROTECTION ADVISORY COMMITTEE

Meeting Date: July 15, 1993

Meeting Location: Blandford Town Hall

Attendees: Paul Kvitek, Don Brainard, Julie Mueller, Tom Matuszko (PVPC).

Otis Land Acquisition
Tom reported that he, Don and Jim Constantino from Springfield had completed a site visit of the land in Otis for sale along Gibbs Road which is in the Long Pond watershed. It was determined the parcel for sale is in fact in the watershed. The drainage was traced to a stream which was followed to the Reservoir. It was also determined that a number of other lots were also in the drainage basin. Jim was to relay the information to his supervisors in Springfield. As yet, Tom had not heard from Springfield. There are limited possibilities for Blandford to acquire the land by itself. One strategy which was discussed was to compare the cost of a private well to the cost of public water. When this comparison is made it is less expensive for the $130/year for the public supplies than it would be to operate a private well.

Sources of Pollution
The Mass Turnpike Authority facility continues to be a problem in Blandford. The sewage plant at Burger King has had a history of regular discharge into the stream. The latest incident was an elevated coliform count in three sinks. Tom to try to pursue.

Water Supply Protection Zoning Bylaw
Tom presented a revised version of the bylaw which incorporated the few minor changes from the previous meeting.

Educational Material / Implementation
Tom distributed a revised flyer and a revised summary of the key points in the proposed water supply protection strategy. A tentative date of August 2, 1993 was set up to meet with the Planning Board to discuss the bylaw. Tom was to pursue. A tentative date of September 16th was also established as the next meeting date and a date to explain the proposed UST regulation. A letter will be set to all identified owners of USTs informing them of the meeting. For that informational meeting it will be important to be aware of replacement costs, cost of removal, testing costs, and who does removal. Tom was to prepare a letter, to be mailed out, for Don's and Paul's signature.

Next meeting date: Scheduled for 7:00-, Thursday, September 16, 1993 at the Blandford Town Office Building

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MINUTES OF
GRANVILLE WATER SUPPLY PROTECTION
ADVISORY COMMITTEE

DATE: May 13, 1993

LOCATION: Granville Town Hall

MEMBERS PRESENT:

___	K. Martin	___	R. Knoener
X	R. Woodger	X	D. Blaze
X	E. Jensen	X	L. Ripley
X	C. Stevenson	X	R. Halpin
___	D. Roberts	X	T. Matuszko (PVPC)
___	J. Meadows		

MINUTES SUBMITTED BY: Tom Matuszko

1. AGENDA ITEM: Minutes of April 15,1993

   DISCUSSION: Minutes accepted as presented

2. AGENDA ITEM: Discussion of Options for the Prevention of Contamination of Water Supplies by Septic Systems

   DISCUSSION: The two "model" options Tom M. prepared for the Committee to prevent the contamination of water supplies by on-site septic systems, a simple inspection report to be completed by septic system haulers at the time of pumping and a mandatory septic system inspection at the time of transfer of property were explained by Tom and discussed by the committee. These techniques are relatively simple in that in the case of the septic system

hauler inspection the hauler would only perform a simple, mostly visual inspection and report problem systems to the local Board of Health for action. In the case of the inspection at the time of transfer of property this technique would basically offer the perspective buyer "consumer protection" that he/she were buying a working system. Both of these techniques would also protect private wells on a lot.

The Committee members had the following comments about the techniques:
Septic System Hauler Inspection:
- There is no staff in town to process the inspection reports;
- Haulers would be penalized if they "turned in" their customers;

Inspection at time of Transfer:
- This would impose an undo cost to the seller trying to sell his/her home;
- It's the buyer's responsibility to know what they are buying:
- Banks usually require some type of home inspection.

The overall sense of the Committee was that they were unwilling to support any technique which would impose some type of mandatory action on homeowners. Many systems in Granville are old systems and would not likely meet the requirements of the new Title V regulations. In some places lot configurations would prohibit the construction of new systems in compliance with the Title V regulations. The Committee felt it would be too costly of an imposition on homeowners to require them to comply with the existing Title V regulations if a system was found to be deficient. Overall it was felt by the Committee that if landowners knew the potential dangers and hazards about septic systems they would take steps themselves to correct the problem. The Committee advocated for an educational campaign about septic systems.

3. AGENDA ITEM: <u>Regional Participation in Water Supply Protection</u>

DISCUSSION: Tom M. presented an idea for regional participation in water supply protection whereby Granville, possibly with Blandford, would work cooperatively with the municipalities which have water supplies located in Granville, such as Westfield, Springfield, and the Hartford MDC. These larger municipalities might be in a position to provide technical expertise and possible funding to address some of the types of issues and concerns that were raised in the previous discussion on septic systems.
The Committee response to this idea was mixed. Some members believed it best not to be involved in any way with the larger communities for fear of losing control. A long list of grievances against the other communities was

also mentioned as a possible reason for not participating. The Committee wanted to consider this idea further.

4. AGENDA ITEM: Education

DISCUSSION: The idea which received the strongest Committee support was public education about water supply protection issues. Tom M. presented a general flyer which he proposed to be delivered to all households in Granville. Committee members were to review the flyer and make comments for the next meeting. Tom M. was also to prepare other information. In addition to mailing the Committee suggested the use of the Country Caller.

NEXT MEETING: SCHEDULED FOR:

THURSDAY JUNE 17, 1993
7:30 PM
GRANVILLE TOWN HALL

GRANMIN.doc/Granville
6/7/93:TM/dl

TIMOTHY W. BRENNAN
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MINUTES OF
GRANVILLE WATER SUPPLY PROTECTION
ADVISORY COMMITTEE

DATE: April 15, 1993

LOCATION: Granville Town Hall

MEMBERS PRESENT:

___ K. Martin	X R. Knoener
X R. Woodger	___ D. Blaze
X E. Jensen	X L. Ripley
___ C. Stevenson	X R. Halpin
___ D. Roberts	X T. Matuszko (PVPC)
___ J. Meadows	

MINUTES SUBMITTED BY: Tom Matuszko

1. AGENDA ITEM: Review of PVPC Scope of Work

   DISCUSSION: Tom briefly reviewed the Pioneer Valley Planning Commission Scope of Work which is to work with a local committee and prepare maps of water supply resources in Granville, identify potential contamination sources, develop a comprehensive strategy to protect those supplies, and prepare education material to allow the strategy get adopted.

2. AGENDA ITEM: Review of Water Supply Maps

   DISCUSSION: Tom explained the maps which were prepared by PVPC showing the watershed and recharge areas located in Granville. Granville is an

important water supply area and most of the Town is located in some type of water supply area. Comments were raised about the potential impact possible regulations could have on a large number of land owners.

3. AGENDA ITEM: Water Supply Concerns Specific to Granville

DISCUSSION: The greatest part of the meeting focused on a discussion of the type of water supply protection mechanisms which might be appropriate in Granville, the need for those mechanisms, and the impact on property rights of those mechanisms. Tom briefly discussed some of the water supply protection mechanisms being considered or in place in other communities, such as water supply protection zoning, regulations for underground storage tanks, regulations for private wells, and regulations for septic systems.

R. Woodger mentioned that the focus of environmental protection, including water supply protection, should be on the prevention or reduction of those potentially harmful materials at the source of production, not on regulating the user. Farmers are particularly hit hard by environmental regulations.

L. Ripley mentioned that Springfield's water is already of very high quality. This means that land owners must be doing something right, and must already be good "stewards" of the land without the regulations.

E. Jensen mentioned that very few owners of Underground Storage Tanks (UST) will willingly admit to having a tank for the fear of liability of clean-up, given the current stringent DEP regulations. The high costs of the tank removal at the school were mentioned, even though there was no obvious evidence of contamination. The idea was proposed to seek "amnesty" from DEP for clean-ups if tank owners participate in a voluntary tank removal program. It was also mentioned that prohibiting USTs might cause a hardship to property owners because tanks in a cellar would be limited by size, necessitating a tank refill in the middle of winter when fuel costs are high.

As a first step the Committee directed Tom to work on septic systems.

4. AGENDA ITEM: Regional Participation

DISCUSSION: Tom mentioned the idea of involving Springfield in this effort. Tom was to pursue different options.

5. AGENDA ITEM: Other Items

DISCUSSION: Tom distributed an educational flyer for review and material about current efforts by DEP regarding watershed protection.

NEXT MEETING: SCHEDULED FOR:

THURSDAY MAY 13, 1993
7:30 PM
GRANVILLE TOWN HALL

GRANMIN.doc/Granville
5/6/93:TM/dl

TIMOTHY W. BRENNAN
EXECUTIVE DIRECTOR

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FAX: (413) 732-2593

MINUTES OF GRANVILLE WATER SUPPLY PROTECTION ADVISORY COMMITTEE

DATE: June 17, 1993

LOCATION: Granville Town Hall

MEMBERS PRESENT:

___	K. Martin	___	R. Knoener
___	R. Woodger	X	D. Blaze
X	E. Jensen	X	L. Ripley
X	C. Stevenson	___	R. Halpin
___	D. Roberts	X	T. Matuszko (PVPC)
___	J. Meadows	X	E. Brown

MINUTES SUBMITTED BY: Tom Matuszko

1. AGENDA ITEM: Minutes of May 13,1993

   DISCUSSION: Minutes accepted as presented

2. AGENDA ITEM: Discussion of Needs/Options for the Protection of the water supply for the Granville Centre Water Co.

   DISCUSSION: Tom M. inquired if there were specific water supply protection needs of the Granville Centre Water Co. that could be served by t his project. Coralee Stevenson reported that the Water Co. owned all the land around the water supply. The springs that used to supply the water company are no longer in use. The water is heavily tested to insure high quality. There is a Wellhead Protection Plan prepared for the Company, which addresses

water supply protection issues. Tom M. was to try to review a copy of that plan.

3. AGENDA ITEM: Education

DISCUSSION: The Committee reviewed the flyer which was distributed at the previous meeting. In general the comments were as follows: the flyer is too complicated; they flyer is too negative and threatening; the flyer lacks a Granville perspective; people in Granville are more interested in how they could/would be affected by various water supply issues and not that interested in contamination examples from the state or region. Suggestions made to improve the flyer, and educational material in general were: keep material simple with one basic idea, make material more rural; educate the entire family; and incorporate a Granville perspective. As a first step Tom was to prepare revised educational material in these four topics: Septic Systems; Private Wells: Household Hazardous Waste, and Underground Storage Tanks. This material was to be prepared and distributed before the next meeting to allow Committee members to get comments back to Tom before the next meeting.

NEXT MEETING: SCHEDULED FOR:

THURSDAY JULY 27, 1993
7:30 PM
GRANVILLE TOWN HALL

GRANMIN.doc/Granville
7/19/93:TM/dl

TIMOTHY W. BRENNAN
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MEETING NOTICE AND PROPOSED AGENDA

GRANVILLE WATER SUPPLY PROTECTION ADVISORY COMMITTEE

MEETING NOTICE

The next meeting has been scheduled for:

DATE: Tuesday, July 27 1993

TIME: 7:30 p.m.

PLACE: Granville Town Hall
Granville, MA

PROPOSED AGENDA

1. Approval of Meeting Minutes of May 17, 1993

2. Discussion of Water Supply Protection Educational Material
   a. Septic Systems
   b. Private Wells
   c. Household Hazardous Waste
   d. Underground Storage Tanks

3. Continued Discussion of Participation in Regional Water Supply Protection Effort

4. Next Meeting Date

NOTE: COMMITTEE MEMBERS. PLEASE REVIEW THE ENCLOSED DRAFT EDUCATIONAL MATERIAL AND RETURN COMMENTS IN THE ENCLOSED STAMPED SELF-ADDRESSED ENVELOPE

TOWN CLERK: PLEASE POST THIS MEETING NOTICE

TM: 7/19/93
GRANAGEN.doc/Granville

APPENDIX B

UNDERGROUND STORAGE TANK INVENTORY

UNDERGROUND STORAGE TANK INVENTORY
BLANDFORD

PVPC UST#	TANK STATUS	ASSESSOR'S MAP/ PARCEL #	TANK OWNER NAME	ADDRESS LOCATION OF TANK	TANK SIZE (GAL.)	TANK CONTENT	LICENSE ON FILE	DATE TANK INSTLD	DATE TANK LAST TESTED	DATE TANK RMVD	AGE OF TANK (YRS.)	TANK CONST MAT.
B001	In Use	105-11	Warren Gregersen	North Street	1,000	Home Htg	Unknown	Unknown	Unknown	-	Unknown	Unknown
B002	In Use	105-12	Liisamaija Flinner	North Street	1,000	Home Htg.	Unknown	Unknown	Unknown	-	Unknown	Unknown
B003	In Use	106-6	Wayne Hamilton	North Blandford Road	1,000	Home Htg	Unknown	Unknown	Unknown	-	Unknown	Fiberglass
B004	In Use	107-4	Robert Paterson	North Blandford Road	1,000	Home Htg.	Unknown	Unknown	Unknown	-	Unknown	Steel
B005	In Use	107-2	Julian Sagalyn	North Blandford Road	Unknown	Home Htg.	Unknown	Unknown	Unknown	-	Unknown	Unknown
B006	In Use	110-21	Julia Avenia	Herrick Road	Unknown	Unknown	Unknown	Unknown	Unknown	-	Unknown	Unknown
B007	In Use	111-6	Mary Lou Orzolek	Main Street	Unknown	Unknown	Unknown	Unknown	Unknown	-	Unknown	Unknown
B008	In Use	111-4-1	Joseph Keenan	Off Main Street	1,000	Home Htg.	Unknown	Unknown	Unknown	-	Unknown	Fiberglass
B009a	In Use	112-44	Theodore Jensen	Main Street	3,000	Gasoline	Yes	1986	Unknown	-	6	Steel
B009b	In Use	112-44	Theodore Jensen	Main Street	3,000	Gasoline	Yes	1986	Unknown	-	6	Steel
B010	Unknown (above ground)	403-6-2	Robert Fontaine	Gibbs Road	Unknown	Gasoline	Unknown	Unknown	Unknown	-	Unknown	Unknown
B011	Abandoned	409-8	Dorothy and Rudy Szuch	North Blandford Road	-	-	-	Unknown	-	-	-	-
B012a	In Use	416-28	Mass. Turnpike Authority (Mobil)	Off Mass. Turnpike	12,000	Gasoline	Yes	6/91	-	-	2	Fiberglass
B012b	In Use	416-28	Mass. Turnpike Authority (Mobil)	Off Mass. Turnpike	10,000	Gasoline	Yes	6/91	-	-	2	Fiberglass
B012c	In Use	416-28	Mass. Turnpike Authority (Mobil)	Off Mass. Turnpike	10,000	Gasoline	Yes	6/91	-	-	2	Fiberglass
B012d	In Use	416-28	Mass. Turnpike Authority (Mobil)	Off Mass. Turnpike	6,000	Diesel	Yes	6/91	-	-	2	Fiberglass
B012e	In Use	416-28	Mass. Turnpike Authority (Mobil)	Off Mass. Turnpike	1,000	heating 0il	Yes	6/91	-	-	2	Fiberglass

UNDERGROUND STORAGE TANK INVENTORY
BLANDFORD
Continued

PVPC UST#	TANK STATUS	ASSESSOR'S MAP/ PARCEL #	TANK OWNER NAME	ADDRESS LOCATION OF TANK	TANK SIZE (GAL.)	TANK CONTENT	LICENSE ON FILE	DATE TANK INSTLD	DATE TANK LAST TESTED	DATE TANK RMVD	AGE OF TANK (YRS.)	TANK CONST MAT.
B013a	In Use	416-28	Mass. Turnpike Authority (Mobil)	Off Mass. Turnpike	12,000	Gasoline	Yes	1990	-	-	2	Fiberglass
B013b	In Use	416-28	Mass. Turnpike Authority (Mobil)	Off Mass. Turnpike	10,000	Gasoline	Yes	1990	-	-	2	Fiberglass
B013c	In Use	416-28	Mass. Turnpike Authority (Mobil)	Off Mass. Turnpike	10,000	Gasoline	Yes	1990	-	-	2	Fiberglass
B013d	In Use	416-28	Mass. Turnpike Authority (Mobil)	Off Mass. Turnpike	6,000	Diesel	Yes	1990	-	-	2	Fiberglass
B013e	In Use	416-28	Mass. Turnpike Authority (Mobil)	Off Mass. Turnpike	1,000	Heating Oil	Yes	1990	-	-	2	Fiberglass
B014a	In Use	408-37	Mass. Turnpike Authority (Maintenance)	Off Old Chester Road	10,000	Diesel	Yes	1975	Unknown	-	18	Fiberglass
B014b	In Use	408-37	Mass. Turnpike Authority (Maintenance)	Off Old Chester Road	6,000	Gasoline	Yes	1956	Unknown	-	38	Steel
B014c	In Use	408-37	Mass. Turnpike Authority (Maintenance)	Off Old Chester Road	6,000	Gasoline	Yes	1956	Unknown	-	38	Steel
B015	In Use	109-18	Town of Blandford (School)	Main Street	Unknown	Unknown	Unknown	Unknown	Unknown	-	Unknown	Unknown
B016a	In Use	109-1	Town of Blandford (Town Garage)	Otis Stage Road	1,000	Diesel	Yes	1965	Unknown	-	28	Steel
B016b	In Use	109-1	Town of Blandford	Otis Stage Road	3,000	Gasoline	Yes	1965	Unknown	-	28	Steel
B017a	In Use	416-23	Springfield Ski Club, Inc.	Nye Brook Road (2nd Division Road)	3,000	Gasoline	Yes	Unknown	Unknown	-	Unknown	Steel
B017b	In Use	416-23	Springfield Ski Club, Inc.	Nye Brook Road (2nd Division Road)	3,000	Gasoline	Yes	Unknown	Unknown	-	Unknown	Steel
B017c	In Use	416-23	Springfield Ski Club, Inc.	Nye Brook Road (2nd Division Road)	3,000	Diesel	Yes	Unknown	Unknown	-	Unknown	Steel

Sources: Blandford Fire Chief and Fire Department Records
Identification by Blandford Water Supply Protection Advisory Committee Members

UNDERGROUND STORAGE TANK INVENTORY
GRANVILLE

PVPC UST#	TANK STATUS	ASSESSOR'S MAP/ PARCEL #	TANK OWNER NAME	ADDRESS LOCATION OF TANK	TANK SIZE (GAL.)	TANK CONTENT	LICENSE ON FILE	DATE TANK INSTLD	DATE TANK LAST TESTED	DATE TANK RMVD	AGE OF TANK (YRS.)	TANK CONST MAT.
G001a	Active		Roland Entwhistle Granby Road	Granville General Store	500	Gas	No	Unknown	Unknown		Unknown	Unknown
G001b	Active		Roland Entwhistle Granby Road	Granville General Store	500	Gas	No	Unknown	Unknown		Unknown	Unknown
G001c	Active		Roland Entwhistle Granby Road	Granville General Store	500	Gas	No	Unknown	Unknown		Unknown	Unknown
G002	Active		Bob Adler Main Road	Humphries Garage	500	Deisel or Kerosine	No	Unknown	Unknown		Unknown	Unknown

Source: Granville Fire Chief
James Meadows

t-gvust.doc/Southern Hltn Wtr Sply Prtctn
RH/im: 7/28/93

UNDERGROUND STORAGE TANK INVENTORY
RUSSELL

PVPC UST#	TANK STATUS	ASSESSOR'S MAP/ PARCEL #	TANK OWNER NAME	ADDRESS LOCATION OF TANK	TANK SIZE (GAL.)	TANK CONTENT	LICENSE ON FILE	DATE TANK INSTLD	DATE TANK LAST TESTED	DATE TANK RMVD	AGE OF TANK (YRS.)	TANK CONST MAT.
R001	In Use		Cumberland Farms Convenience Store and Gas Station	Huntington Road		Gasoline		1987			6	
R002	In Use		Stones Garage	Huntington Road		Gasoline		Unknown				

Sources: Russell Fire Chief

t-ruust.doc/Southern Hltn Wtr Sply Prtctn
7/27/93

APPENDIX C

POTENTIALLY HAZARDOUS LAND USE INVENTORY

LIST OF COMMERCIAL/INDUSTRIAL LAND USE IN, OR IN CLOSE PROXIMITY TO RECHARGE OR WATERSHED AREAS WHICH MAY STORE HAZARDOUS MATERIALS

(To accompany map overlay titled Potential Sources of Water Pollution)

Blandford

B1. Abandoned Vehicles

B2. Blandford Highway Department

B3. Chester Granite

B4. Abandoned Vehicles

B5. Massachusetts Turnpike Authority Maintenance Garage

B6. Massachusetts Turnpike Authority Rest Area (service Station) (Burger King)

B7. Massachusetts Turnpike Authority Rest Area (service station)

B8. Blandford General Store

Granville

G1. Humphries Garage

G2. Granville Highway Department

G3. Sand & Gravel Excavation

G4. Town Line Auto Salvage

G5. Abandoned Vehicles

Russell

R1. Cumberland Farms Gas Station

R2. Citgo Gas Station

R3. Russell Fire Department/Public Works

R4. Wastewater Treatment Plant

R5. Construction Equipment

R6. State Police Barracks

R7. Highway Garage

APPENDIX D

BLANDFORD RECOMMENDED WATER SUPPLY PROTECTION STRATEGY

a. Water Supply Protection Overlay Bylaw

b. Underground Storage System Regulation

c. Land Acquisition Protection Strategy

d. Regional Participation Proposal

DRAFT - FOR DISCUSSION ONLY Revised July 15, 1993

Prepared for the Blandford Water Supply Protection Advisory Committee

This bylaw contains changes to Blandford's existing Long Pond Watershed Protection District Bylaw which were recommended by the Massachusetts Department of Environmental Protection to allow Blandford to retain its waiver from an expensive water filtration requirement. In addition this bylaw covers water supply areas for Russell's, Huntington's and Springfield's water supplies. Text which is underlined is added to the existing Long Pond Watershed District Bylaw. Text which is ~~struck through~~ is deleted from the existing Long Pond Watershed District Bylaw.

4. WATER SUPPLY ~~SHED~~ PROTECTION DISTRICTS

SECTION I

Purpose of District

A. ~~A~~ The Water Supply ~~shed~~ Protection Districts are ~~is~~ established in the Town of Blandford ~~for the watershed of Long Pond~~ for the following purposes:

(1.) to protect, preserve and maintain the water table and water recharge areas within the town, so as to preserve present sources of water supply for the public health and safety;

(2.) to protect the community from the detrimental use and development of land and waters within the water~~shed~~ supply protection districts; and

(3.) to conserve the watershed area of the Town of Blandford for the health, safety, welfare and enjoyment of its people; and

(4.) to protect the water quality of regional water supplies.

SECTION II

Establishment and Definition of Districts

A. Long Pond Watershed Protection District

~~A.~~(1) The intent of the Long Pond Watershed Protection District is to include lands lying adjacent to water courses and surface water bodies which create the catchment or drainage areas of such water courses and bodies, as part of their natural drainage system. The district includes all areas designated on the

Watershed Protection District Maps for the Town of Blandford, on file in the Office of the Town Clerk, which are hereby made part of the town zoning map(s).

~~B.~~ (2) Following is a description of the boundaries of the Long Pond Watershed Protection District:

BEGINNING at a point on the Blandford and Otis town line, approximately 1300 feet southerly from the center of North Blandford Road;

THENCE southeasterly about 3600 feet to the intersection of Wheeler Brook with Negro Hill Road;

THENCE continue southeasterly along the center of Negro Hill Road about 1100 feet to a point;

THENCE in a general southerly direction about 1800 feet to an angle;

THENCE continue in a general southerly direction about 1900 feet to the center of an old road;

THENCE westerly and southwesterly along the center of said old road about 2300 feet to its intersection with Gibbs Road;

THENCE northwesterly along Gibbs Road about 2550 feet to a point;

THENCE northwesterly about 1200 feet to a point on the Blandford and Otis town line, at the southwest corner of parcel three as shown on Map 403 of the Town of Blandford Assessors maps;

THENCE northerly along the Blandford and Otis town line about 4150 feet to the place of beginning.

(Note: This bylaw does not change the boundaries of the existing Long Pond Watershed Protection District.)

B Regional Water Supply Overlay District

(1) The Regional Water Supply Overlay District is intended to include important watershed land and recharge areas for water supplies used by other municipalities besides Blandford. The Regional Water Supply Overlay District is an overlay district and shall be superimposed on the other districts established by this bylaw. All regulations of the Town of Blandford Zoning By-law applicable to such underlying districts shall remain in effect, except that where the Regional Water Supply Overlay District imposes additional regulations such regulations shall prevail. The map, entitled, Southern Hilltown Water Supply Protection Area, on

file in the office of the Town Clerk, delineates the boundaries of the district. The Regional Water Supply Overlay District contains the following:

a. All lands within the watershed of the Cobble Mountain Reservoir;

b. All lands within the watershed of the Black Brook Reservoir;

c. All lands which provide secondary or tertiary recharge for Russell's Well #1.

d. All lands which provide secondary recharge for Huntington's Wells #1 & 2 and all land within the watershed for the Cold Brook Reservoir.

C. District Boundary Disputes

(1) Where the bounds delineated are in doubt or in dispute, the burden of proof shall be upon the owner(s) of the land in question to show where the bounds should be properly located.

SECTION III

Permitted Uses

A. The following uses are permitted within the Long Pond Watershed Protection District and the Regional Water Supply Overlay District, subject to Section IV, provided that all necessary permits, orders, or approvals required by local, state, or federal law shall also be obtained:

1. conservation of soil, water, plants, and wildlife;

2. passive outdoor recreation activities and nature study; ~~fishing, and hunting where otherwise legally permitted;~~

3. proper operation and maintenance of existing dams, splash boards, and other water control supply and conservation devices;

4. repair, maintenance and reconstruction of structures and uses lawfully existing prior to adoption hereof may be continued as permitted under the Zoning Act;

5. farming, gardening, nursery, conservation and harvesting;

6. forestry, i.e., the cutting and removal of trees for the purpose of selling said trees or any products derived therefrom, when carried out in the following manner:

   a. every reasonable effort shall be made to gain access without constructing new access ways including, but not limited to, maintaining and improving (but not

substantially enlarging) existing access ways, and operations shall be conducted when the soil is dry or otherwise stable~~, as determined by the Board of Health or an agent appointed by them~~;

b. where access is determined impracticable without constructing new access ways, said access ways shall be designed, constructed and maintained in accordance with US. Forest Service logging road standards, as specified in 3.04 CMR 11.00.~~ and shall be removed and the site returned to previously existing conditions within one year~~;

(Note: 3.04 CMR 11.00 are state regulations for the Forest Cutting Practices Act)

~~c. to ensure the faithful completion of the construction under (b) above, any person desiring to perform construction thereunder shall file with the Planning Board, in a form satisfactory to the Board, a performance bond in an amount determined by the Board or its authorized agent. Said performance bond shall be held by the Planning Board until all work required under paragraph (b) is completed in a manner satisfactory to the Board or its authorized agent.~~

c. all channel crossings shall be stabilized to prevent erosion, using standard US. Forest Service methods. When crossings involve fill or other closed or semi-closed structures which will obstruct flow, they shall be designed, constructed and maintained in accordance with US. Forest Service standards, shall allow the unobstructed passage of existing flows for at least the 10-year storm, and shall be removed and the site returned to existing conditions within one year of construction. Temporary bridges must be used for all stream crossings within 500 ft upstream of a public drinking water supply reservoir;

(Note: This provision is consistent with the Forest Cutting Act. The temporary bridge requirement is a proposed amendment to the existing regulations.)

d. all operations, other than for personal or household use, shall be conducted in accordance with a cutting plan approved by the Massachusetts Department of Environmental Management District Forester; and a written notice describing the proposed cutting and removal of trees shall be submitted to the Conservation Commission not less than ten days prior to the commencement of operation;

(Note: The Forest Cutting Act requires this of all operations greater than 25,000 board feet or more than 50 cords from any one parcel. This provision would require it of all cutting, other than for personal or household use, in the defined areas.)

e. the removal of the selectively cut trees shall occur only during those periods when the ground is sufficiently dry or otherwise stable to support the equipment used;~~ as determined by the Board of Health or an agent appointed by them;~~

d. the placement of slash, branches and limbs resulting from the cutting and removal operations shall not occur within 25 feet of the bank of a water body; and

(Note: This is consistent with M.G.L. Chp. 48 An Act Relative to the Handling of Slash.)

f. there shall occur no filling, excavation or other change in the existing topography in connection with forestry practices.

g. after the cutting, the crown area of the remaining trees shall be evenly distributed throughout the site and shall cover no less than 50 percent of the surface area of the site.

B. The following uses are also permitted within the Regional Water Supply Overlay District provided that they comply with all applicable provisions of the underlying district and applicable restrictions in this bylaw

(1) Residential development subject to SECTIONS IV-VIII.

(2) Residential accessory uses, including garages, driveways, private roads, utility rights of way, and on-site wastewater disposal systems, subject to SECTIONS IV-VIII.

(3) Maintenance, repair, improvement, and enlargement of any existing structure subject to SECTIONS IV-VIII.

SECTION IV

Prohibited Uses

A. The following uses are prohibited within both the Long Pond Watershed Protection District and Regional Water Supply Overlay District

(1) Solid waste landfills, dumps, auto recycling, auto graveyards, junk and salvage yards, landfilling or storage of sludge and septage, with the exception of the disposal of brush or stumps;

(2) Storage of liquid petroleum products of any kind, except for the following:

(a) Storage which is incidental to:

(1) normal household use and outdoor maintenance or the heating of a structure;

(2) emergency generators required by statute, rule or regulation, or;

(3) waste oil retention facilities required by Mass. General laws C.21, s.52A;

(4) treatment works approved by the Mass. Department of Environmental Protection designed in accordance with 314 CMR 5.00 for the treatment of contaminated ground or surface waters;

provided that such storage shall be in a free standing, above ground container within a structure or within the basement of a structure, within a diked, impermeable area sufficient to contain the volume of the tank plus 10% to prevent spills or leaks from reaching ground and future water, and provided that the storage tank and piping must comply with all applicable provisions of 527 CMR 9.00 Massachusetts Board of Fire Prevention regulations.

(b) Replacement of storage tanks or systems for the keeping, dispensing or storing of gasoline, which existed at the time of adoption of this bylaw, provided that:

(1) all such replacement storage tanks or systems shall be located underground as required by Mass. Board of Fire Prevention regulation 527 CMR 14;

(2) all such storage systems shall be protected by one of the secondary containment systems specified in Mass. Board of Fire Prevention regulations 527 CMR 9.08(3);

(3) the head of the Fire Department may deny an application for tank replacement, or approve it subject to conditions if he or she determines that it constitutes a danger to public or private water supplies, in accordance with 527 CMR 9.26(4)(d).

Replacement of all other storage tanks for liquid petroleum products other than gasoline must be above ground, in accordance with SECTION IV(2) above.

(3) Outdoor storage of salt, de-icing materials, including sand and salt mixtures, unless such storage is within a structure designed to prevent the generation and escape of contaminated run-off or leachate.

(4) Dumping or disposal on the ground, in water bodies, or in residential septic systems of any toxic chemical, including but not limited to septic system cleaners which contain toxic chemicals such as methylene chloride and 1-1-1 trichorethane, or other household hazardous waters (see list of prohibited chemicals at Board of Health or Town Clerk's office).

(5) Stockpiling and disposal of snow and ice containing deicing chemicals if brought in from outside the district and disposal of such material direction into a tributary to the water supply;

(6) Storage of animal manure unless covered or contained to prevent the generation and escape of contaminated run-off or leachate;

(7) Facilities that generate, treat, store, process or dispose of hazardous waste subject to M.G.L. C.21C and 310 CMR 30.00, except the following:

(a) very small quantity generators as defined under 310 CMR 30.00;

(b) household hazardous waste collection centers and events under 310 CMR 30.390;

(c) waste oil retention facilities required by M.G.L. C.21, s.52A;

(d) water remediation treatment works approved under 314 CMR 5.00;

(8) Wastewater Treatment works subject to 314 CMR 5.00 (those treatment works which discharge over 15,000 gallons per day to the ground), except the following:

(a) the replacement or repair of an existing system(s) that will not result in a design capacity greater than the design capacity of the existing system(s);

(b) the replacement of an existing subsurface sewage disposal system(s) with wastewater treatment works that will not result in a design capacity greater than the design capacity of the existing system(s), and;

(c) treatment works designed for the treatment of contaminated ground or surface waters subject to 314 CMR 5.00.

(9) Industrial and commercial uses which discharge process wastewater on site;

(10) Storage of commercial fertilizers and soil conditioners, as defined in M.G.L. C.128, s.64, unless such storage is within a structure designated to prevent the generation and escape of contaminated runoff or leachate;

(11) Animal feedlots, unless designed to prevent the escape of contaminated run-off or leachate.

(12) Storage of liquid hazardous materials, as defined in M.G.L. C.21E, unless in a free standing container within a building or above ground with secondary containment adequate to contain a spill the size of the container's total storage capacity;

(13) Trucking terminals, bus terminals, car washes, motor vehicle gasoline sales, automotive service and repair shops, commercial fuel oil storage and sales and commercial repair, servicing, washing and rebuilding of large motorized equipment other than for normal household activities

SECTION V

Additional Prohibited Uses

A. In addition to the uses listed in SECTION IV, the following uses are prohibited in the Long Pond Watershed District and Zone A of the Regional Water Supply Overlay District.

(1) Forestry, i.e. the commercial cutting or removal of trees within 400 feet of the shore, from the mean high water mark, and within 25 feet from the bank of all brooks and streams

(2) Any new buildings, structures, land disturbing activities or excavations , except as provided for in SECTION III A, permitted uses.

(3) The storage and use of herbicides, pesticides, fertilizers and other leachable materials.

(4) Forest access ways shall be removed and the site returned to previously existing conditions within one year;

(5) To ensure the faithful completion of the construction of any access way under (4) above, any person desiring to perform construction thereunder shall file with the Planning Board, in a form satisfactory to the Board, a performance bond in an amount determined by the Board or its authorized agent. Said performance bond shall be held by the Planning Board until all work required under paragraph (b) is completed in a manner satisfactory to the Board or its authorized agent.

SECTION VI

Restricted Uses

A. The following are restricted in both the Long Pond Watershed Protection District and Regional Water Supply Overlay District.

(1) Excavation for removal of earth, loam, sand, gravel and other soils or mineral substances shall not extend closer than six (6) feet above the historical high groundwater table (as determined from on-site monitoring wells, on-site test pits, and historical water table fluctuation data compiled by the United State Geological survey, whichever is higher). A monitoring well shall be installed by the property owner to verify groundwater elevations. Small excavation operations, those under 1000 cubic yards per year, shall be exempt from the monitoring well requirement. This section shall not apply to excavations incidental to permitted uses, including but not limited to providing for the installation or maintenance of structural foundations, freshwater ponds, utility conduits or on-site sewage disposal..

(a) Access road(s) to extractive operation sites shall include a gate or other secure mechanism to restrict public access to the site.

(b) Upon completion of earth removal operations, all altered areas shall be restored with topsoil and vegetative plantings suitable to control erosion on the site. All fine materials, such as clays and silts, removed as part of the earth removal operation and leftover as by-products, shall be disposed of off-site to prevent damage to aquifer recharge characteristics.

(2) Sodium chloride for ice control shall be used at the minimum salt to sand ratio which is consistent with the public highway safety requirements, and its use shall be eliminated on roads which may be closed to the public in winter.

(3) Fertilizers, pesticides, herbicides, lawn care chemicals, or other leachable materials shall be used in accordance with the Lawn Care Regulations of the Massachusetts pesticide Board, 333 CMR 10.03 (30, 31), as amended, with manufacturer's label instructions and all other necessary precautions to minimize adverse impacts on surface and groundwater.

(4) To the extent feasible, run-off from impervious surfaces shall be recharged on the site by being diverted toward areas covered with vegetation for surface infiltration. Such run-off shall not be discharged directly to rivers, streams or other surface water bodies.

SECTION VII

Special Permit Uses

A. Uses allowed by Special Permit in the Regional Water Supply Overlay District

The following uses may be allowed by Special Permit obtained from the Planning Board:

(1) Commercial, industrial, governmental or educational uses which are allowed in the underlying district, and which are not prohibited in SECTIONS IV or V;

(2) Any enlargement, intensification, alteration, or change of use of an existing commercial or industrial use;

(3) The rendering impervious of more than 20% or 2,500 square feet of any lot, whichever is greater.

(4) The construction of dams or other water control devices, ponds, pools or other changes in waterbodies or courses, created for swimming, fishing, or other recreational uses, agricultural uses, or drainage improvements. Such activities shall not adversely affect water quality or quantity;

(5) Residential construction upon a lot with an average slope exceeding 15%. An acceptable sedimentation, erosion control and site stabilization plan shall be undertaken.

B. Requirements for Special Permit in the Water Supply Protection District

The applicant shall file four (4) copies of a site plan prepared by a qualified professional with the Special Permit Granting Authority. The site plan shall at a minimum include the following information where pertinent.

(1) A complete list of chemicals, pesticides, fuels and other potentially hazardous materials to be used or stored on the premises in quantities greater than those associated with normal household use and provisions to protect against the unintended discharge of those materials.

(2) Drainage recharge features and provisions to prevent loss of recharge.

(3) Provisions to control soil erosion and sedimentation, to prevent compaction of septic systems and leach fields, and to prevent seepage from sewer pipes.

C. Additional Procedures for Special Permit in the Water Supply Protection District

(1) The Special Permit Granting Authority shall follow all special permit procedures contained in Section 5.

(2) The Special Permit Granting Authority may grant the required special permit only upon finding that the proposed use meets the following standards and those specified in Section 5 of this bylaw. The proposed use must:

a. in no way, during construction or thereafter, adversely affect the existing or potential quality or quantity of water that is available in the Water Supply Protection Districts, and;

b. be designed to avoid substantial disturbance of the soils, topography, drainage, vegetation and other water-related natural characteristics of the site to be developed which would alter the quality or quantity of water available in the Water Supply Protection Districts.

(3) The Special Permit Granting Authority shall not grant a special permit under this section unless the petitioner's application materials include, in the Board's opinion, sufficiently detailed, definite and credible information to support positive findings in relation to the standards given in this section.

SECTION VIII

Required Buffer Strip Along River and Stream Banks

A. The following requirements shall apply to all uses allowed by right or by Special Permit:

(1) A buffer strip extending two hundred (200) feet in Zone A, one hundred (100) feet in Zone B, and twenty-five (25) feet in Zone C in width landward from the bank of all rivers and streams shall be required for all land within the Water Supply Protection Districts. If any lot existing at the time of adoption of this bylaw does not contain sufficient depth measured landward from the riverbank to provide the required buffer strip, the buffer strip may be reduced to 50% of the available lot depth, measured landward from the river or stream bank.

a. The buffer strip shall include trees and shall be kept in a natural condition.

b. No buildings nor structures shall be erected, enlarged, altered or moved within the buffer strip.

c. On-site wastewater disposal systems shall be located no less than 100 feet from the normal highwater mark of a river or stream.

(Note: This provision is consistent with regulations of the Blandford Conservation Commission)

(2) The following forestry practices shall apply within the buffer strip:

a. Within the Long Pond Watershed District and Zone A of the Regional Water Supply Overlay District no commercial forestry cutting shall occur within the buffer strip and within 25 feet of all brooks and streams

(Note: This provision is somewhat more restrictive than the Forest Cutting Practices Law which requires that only 50% of the timber may be cut within a filter strip of 50 ft. from banks of all water bodies)

b. Within the buffer strip of Zones B and C of the Regional Water Supply Overlay District no more than 50% of the existing forest shall be cut.

(Note: This provision is consistent with the Forest Cutting Practices Act except that it extends the width of the filter strip by 50 feet in Zone B..)

SECTION IX

Non-Conforming use

Non-conforming uses which were lawfully existing, begun or in receipt of a building or special permit prior to the first publication of notice of public hearing for this bylaw may be continued. Such non-conforming uses may be extended or altered, as specified in M.G.L. C.40a, S.6, provided that there is a finding by the Planning Board that such change does not increase the danger of surface or groundwater pollution from such use.

SECTION X

A. Definitions

(1) Watershed: Land lying adjacent to water courses and surface water bodies which create the catchment or drainage areas of such water courses and bodies.

(2) Impervious Surfaces: Materials or structures on or above the ground that do not allow precipitation to infiltrate the underlying soil.

(3) Hazardous material: material including but not limited to, any material, in whatever form, which, because of its quantity, concentration, chemical, corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment, when improperly stores, treated, transported, disposed of, used, or otherwise managed. The term shall not include oil.

(4) Hazardous Waste: A waste which is hazardous to human health or the environment. Hazardous wastes have been designated by the Regulations of the Massachusetts hazardous Waste Management Act, Massachusetts General Laws, C.21C.

(5) Zone A: Those areas within 400 feet of the 100-year flood plain elevation as delineated on the Federal Management Agency Maps (FEMA), of Long Pond Reservoir, Black Brook Reservoir, Cold Brook Reservoir, Cobble Mountain Reservoir and Border Brook Reservoir.

(6) Zone B: Those areas located within one half mile up-gradient of the Zone A boundary or the watershed boundary, whichever is less.

(7) Zone C: Those areas encompassing the remaining watershed not designated as either Zone A or B.

(8) Primary Aquifer Recharge Areas: Areas of stratified drift (sand or gravel) which directly recharge public water supply wells.

(9) Secondary Recharge Areas: Areas of till or bedrock which either directly recharge existing public water supply wells or contribute water to primary aquifer recharge areas.

(10) Tertiary Aquifer Recharge Area: Areas of till or bedrock which are located within the watersheds of streams which may recharge public supply wells through induced infiltration.

b-blws:TM:7/15/93

LIST OF PROHIBITED CHEMICALS:

SEPTIC SYSTEM ADDITIVES/CLEANERS:

Warning = It is illegal to introduce the following chemicals into a septic system located in the Water Supply Protection Districts in the Town of Blandford as specified in the Water Supply Protection District Zoning Bylaw contained in Blandford's Zoning Bylaws. Products containing any of these chemicals may contaminate groundwater.

A list of prohibited chemical follows:

1. methylene chloride
2. 1,1,1 trichloroethane
3. trichloroethylene
4. tetrachloroethylene
5. carbon tetrachloride
6. ethylene glycol monophenylether
7. acids (ex:H_2SO_4,$Al_2(SO_4)_3$)
8. orthodichlorobenzene
9. orthochlorotoluene
10. dichloromethane
11. petroleum distillates
12. naphthalene
13. benzenes
14. bases (ex: KOH,$CuSO_4$)

Please read the list of product ingredients carefully before adding septic system additives/ cleaners. A map of the Water Supply Protection District and a copy of the Water Supply Protection District Zoning Bylaw are located with the Planning Board in the Town Hall.

PREPARED FOR BLANDFORD WATER SUPPLY PROTECTION ADVISORY COMMITTEE

FEBRUARY 16, 1993

DRAFT

This regulation contains provisions for the registration of all underground storage tanks in Blandford requires the removal of tanks greater than 20 years old at the time of transfer of property, prohibits all new underground storage tanks for home heating use, prohibits new underground storage tanks in water supply areas and sets standards for the replacement of existing underground gasoline tanks in water supply areas.

UNDERGROUND STORAGE SYSTEM REGULATIONS

1.00 Authority

WHEREAS, leaking underground storage systems containing toxic or hazardous materials pose an immediate and serious threat to the water supply source for Blandford;

WHEREAS, the Town of Blandford needs accurate records of the location, age and ownership of all such systems installed within the Town of Blandford;

THEREFORE, the Town of Blandford adopts the following measures under its home rule powers, its police powers to protect the public health and welfare, and its authority under M.G.L., Chapter 40, Section 21, in order to protect the ground and surface waters from contamination with liquid toxic or hazardous materials.

1.01 Definitions

a. Underground Storage System: any underground storage tank and piping for toxic or hazardous materials.

b. Toxic or Hazardous Materials: all liquid hydrocarbon products including, but not limited to, gasoline, fuel and diesel oil, toxic or corrosive chemicals, radioactive materials, or other substances controlled as being toxic or hazardous by the Division of Hazardous Waste of the Commonwealth of Massachusetts, under the provisions of Massachusetts General Laws, Chapter 21C, Section 1, et seq.

c. Underground Storage: storage of petroleum products or other toxic or hazardous materials below ground level but not including storage in a free-standing container within a building.

1.02 Regulations for All Underground Storage Systems

The following regulations shall apply to all underground storage systems containing toxic or hazardous materials, as defined above.

1.021 Compliance with Applicable State Regulations

Every owner of an underground storage system for fuel or other hazardous or toxic materials shall comply with 527 CMR 9.00 and all other applicable state regulations for such storage.

Note: 527 CMR 9.00 are Board of Fire Prevention Regulations regulating tanks and containers.

1.022 Registration of All Underground Storage Systems

a. Every owner of an existing underground storage system for toxic or hazardous materials including petroleum products, whether in use or abandoned, shall apply to the Fire Department for a permit to have a storage facility. Application shall be made within one hundred twenty (120) days of the effective date of this bylaw on a form provided by the Fire Department, which shall contain, at a minimum, the following information:

Note: Since November 1988, except for: (1) farm or residential tanks less than 1,100 gallon capacity used for storing motor fuel for non-commercial purposes or; (2) residential or commercial tanks for storing heating oil for consumptive use, all tanks installed prior to May 9, 1986 are required to obtain a permit to be maintained.

(1) Name, address and telephone numbers of the owner and operator;
(2) Address of storage tank location;
(3) The type of materials stored;
(4) Tank size and construction type for tank and piping;
(5) Evidence of the date of installation and of system warranty. (Where the age of a tank is unknown, the tank shall be presumed to be 25 years old.)
(6) Plot plan of the site, if available, including location of the tank, pumping components, any wells or water bodies, and any subsurface drains;
(7) Appropriate tank location marked on a copy of a 8 1/2 X 11" street atlas map or United States Geological Survey topographic map, provided with the Fire Department's application form;
(8) Leak detection, overfill prevention, and spill containment devices;
(9) Corrosion prevention, if any.

Note: These requirements were based on 527 CMR 4.26, the Board of Fire Prevention Regulations.

1.023 Registration Tags

a. Upon registering the tank with the Fire Department, the tank owner will receive a permanent metal or plastic tag, embossed with a registration number unique to that tank. This registration tag must be affixed to the fill pipe or in such location as to be visible to any inspector authorized by the Town.

b. Effective _____ (date), every petroleum or other chemical distributor, when filling an underground storage tank, shall note on the invoice or bill for the product delivered, the registration number appearing on the tank. Every petroleum or other chemical distributor shall notify the Fire Department of the existence and location of any unregistered or untagged underground tank, or any tank which the distributor cannot clearly identify as being either above or below ground, which they are requested to fill.

Such notification must be completed within two (2) working days of the time the distributor discovers that the tank registration tag is not present.

1.024 Underground Tanks 20 Years or Older

For any underground tank or storage system 20 years or older, the Town shall send a notice to the owner strongly recommending that the tank be drained and removed, or that a testing system, approved by the Fire Chief, be instituted to ensure that the tank is not leaking. The notice shall inform the owner of the potential hazards and liabilities of a leaking tank.

1.025 Tank Removal

a. Prior to the removal of an underground storage tank governed by this regulation, the owner shall first obtain a permit from the Fire Marshall or head of the Fire Department, pursuant to M.G.L., Chapter 148.

Note: The above section a restates M.G.L. Chapter 148.

b. Any person granted a permit by the Marshall or the head of a local Fire Department to remove a tank under the provisions of M.G.L., Chapter 148 or 527 CMR 9.00 shall within 72 hours provide the permit granting authority with a receipt for delivery of said tank to the site designated on the permit.

Note: The above section b restates 527 CMR 9.23 (1).

c. Before any person is granted a permit by the Marshall or the head of a local Fire Department to remove a tank under the provisions of M.G.L., Chapter 148 or 527 CMR 9.00, and said tank is not being transported to an approved tank yard, the person requesting the permit shall provide the permit granting authority with written approval from the owner/manager of the disposal site. (Reference 502 CMR 3.00 for tank removal and disposal procedure).

Note: The above section c restates 527 CMR 9.23(2)

d. When any tank is removed, the tank filler pipe must also be removed or permanently sealed.

1.026 Costs

In every case, the owner shall assume responsibility for costs incurred necessary to comply with this regulation.

1.027 Abandoned Tanks

Underground tanks or storage systems which are abandoned or temporarily out of service must comply with Massachusetts Board of Fire Prevention regulations under 527 CMR 9.22-23. All abandoned tanks must be drained and removed or otherwise brought into compliance with state regulations as specified in 527 CMR 9.22-23.

Note: 527 CMR 9.22-23 allows an abandoned tank under a building to be filled with a concrete slurry mix. No other tank may be filled. Tanks not in use greater than 6 months are considered abandoned and must be removed. Tanks out of service less than 6 months must receive a permit from the fire chief before they can be re-used.

1.028 Fees for Registration

These permits shall be in addition to any license or permit required by M.G.L., Chapter 148, as amended, or by any regulation issued thereunder. The fee for this permit, payable to the Town of Blandford shall be established by the Board of Selectmen.

1.029 Transfer of Ownership

If the ownership of any underground storage system is transferred, the new owner shall notify the Fire Department within ten (10) working days. Any tanks 20 years or older, without cathodic protection or other leak prevention devices, shall be removed at the expense of the seller under the supervision of the Fire Chief. If proof of date of installation is not known, the tank will be assumed to be 25 years old.

1.03 Regulations for All New or Replacement Underground Storage Systems

The following regulations shall apply to all applications for new storage systems containing toxic or hazardous materials.

1.031 Registration of Underground Storage Systems

a. All new or replacement storage systems must comply with the registration procedures in Section 1.022.

1.032 Procedures for Review of Permit Applications

a. The head of the Blandford Fire Department is required to send to the Board of Health, the Water Department and the Conservation Commission a copy of every permit application for a new underground storage facility, with a request for a recommendation of approval or disapproval within 30 days.

b. Subsequent to the effective date of this ordinance, no new or replacement underground storage containers shall be installed unless the owner shall have first obtained a permit from the Fire Department. If the Fire Department determines that the proposed storage container constitutes a danger to a water supply, water body, public health or safety, the Fire Department may deny the permit or may grant it subject to conditions which the Department determines are necessary. All new and replacement underground storage tanks, regardless of size, shall meet the requirements of Massachusetts regulations 527 CMR 9.00 regarding tank design, construction and installation.

Note: 527 CMR 9.00 specifies in great detail, tank design, construction and installation practices.

1.033 Regulations for New or Replacement Storage Systems in Blandford

a. New Tanks

(1) No new underground storage systems for residential home heating oil use shall be allowed in Blandford.

(2) New above ground storage systems for toxic or hazardous materials, other than gasoline, shall be located inside a structure or within the basement of a structure, within an impervious bermed containment area designed to contain the volume of the tank.

b. Replacement of Existing Tanks

(1) It is strongly recommended that all replacement storage systems for toxic and hazardous materials, other than gasoline, including home heating oil, which existed at the time of adoption of this bylaw be located above ground inside a structure or within the basement of a structure with an impervious bermed containment area sufficient to contain the volume of the tank.

(2) Underground storage tanks for toxic or hazardous materials which existed at the time of the adoption of this bylaw may be replaced underground provided that the requirements of Section 1.034 below are met.

(3) Above ground tanks must comply with all applicable provisions of 537 CMR 9.00, Massachusetts Board of Fire Prevention Regulations.

1.034 Additional Regulations for New or Replacement Storage Systems Within the Water Supply Protection District

Within the Blandford Water Supply Protection District designated on the Southern Hilltown Water supply Protection Area Map the following additional regulations shall apply.

a. New Tanks

(1) No new underground storage systems, including tanks for the storage of gasoline shall be allowed in the Water Supply Protection District.

b. Replacement of Existing Tanks

(1) All replacement storage systems for gasoline storage tanks existing at the time of adoption of this bylaw shall be located underground as required by the Massachusetts Building Code.

All such storage systems shall be protected by one of the secondary containment systems specified in Massachusetts Board of Fire Prevention Regulations 527 CMR 9.08(3). The Fire Department, with the advice of the local officials listed in 1.032(a),

may set conditions on the installation and use of UST systems storing gasoline which may include, but are not limited to the following:

Note: These conditions are not mandatory but could be employed in unusual circumstances.

(a) The tanks and/or piping must have tertiary containment through the use of a buried vault or liner surrounding the tank and/or piping and filled with backfill materials.

(b) The interstitial space monitors must be able to identify vapor, product and water, and alarms from those monitors must be connected to a central point where calls to the police, fire, and water department are automatically made when an alarm sounds.

Note: Interstitial monitoring is designed to detect vapor, liquid or pressure change in the space between the walls of a double walled tank.

(c) The spill containment device must have a capacity of between ten and twenty-five gallons.

(d) The area for filling the tanks must be designed to contain a spill the size of one tanker truck compartment.

(e) The facility must have a spill and leak contingency plan so that all employees know how to safely and rapidly respond to a spill or leak. The plans must be made together with local emergency personnel and the water department.

(f) Safe absorbent material, booms, and other spill containment material must be kept at the facility and all staff must be trained to use them.

(g) The piping must be, whenever possible, European suction piping as defined in 527 CMR 9.00.

Note: European suction piping are piping systems which slope back to the tank and have only one check valve which is located directly under the dispenser.

(2) Replacement storage systems for toxic and hazardous materials including home heating oil, which existed at the time of adoption of this bylaw shall be located above ground inside a structure or within the basement of a structure with an impervious bermed containment area sufficient to contain the volume of the tank.

(3) Above ground tanks must comply with all applicable provisions of 537 CMR 9.00, Massachusetts Board of Fire Prevention regulations.

1.04 Report of Leaks, Spills or Violations

Any person who is aware of a spill of ten gallons or more from any cause, or a loss of products, or unaccounted for increase in consumption which may indicate a leak or violation of this ordinance shall

report such spill, loss or increase immediately to the head of the Fire Department, and to the Massachusetts Department of Environmental Protection regional office (or to the State Police if Department of Environmental Protection offices are closed) as required in 527 CMR 9.20, and 310 CMR 40.30.

1.05 Enforcement

1.051 Any violation of the provisions of this bylaw, the conditions of a permit granted under this bylaw, or any decisions rendered by the Fire Department under this bylaw, shall be liable to a fine of not more than one hundred dollars ($100.00) for each violation. Each day such violation continues shall be deemed a separate offense.

1.06 Severability

Provisions of this regulation are severable any if any provision hereof shall be held invalid under any circumstances, such invalidity shall not affect any other provisions or circumstances.

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DRAFT

BLANDFORD WATER SUPPLY PROTECTION ADVISORY COMMITTEE

Land Acquisition for Protection of Long Pond Reservoir

The watershed area for the Long Pond Reservoir consists of approximately 392 acres of land. Approximately 304 acres (78%) of the watershed are in the Town of Blandford. Approximately 88 acres (22%) of the watershed are located in the Town of Otis, to the west of Gibbs Road.

The watershed land for Long Pond Reservoir located in Blandford is owned by the Springfield Water Department and the Town of Blandford. The watershed land in Otis is in private ownership. In the early/mid 1980's land in Otis, roughly bounded by Gibbs, Lee-Westfield, and Algerie Roads, was subdivided for residential development. Twelve new lots were created along Gibbs Road alone. All of the new lots along Gibbs Road are within the watershed for either the Long Pond or Cobble Mountain Reservoirs. One on the lots (8-45) has been developed for residential use, (refer to accompanying map). There is evidence of building of another lot. Two lots, 12-15 and 8-50 are currently for sale.

Parcel Prioritization

Parcels 8-49, 8-50, 8-51, 8-52, 8-53, 8-54, 12-15 and 12-3 are the highest priority parcels for protection for the Long Pond Reservoir. Field assessment of these parcels verified that all are within the drainage basin for Long Pond Reservoir. These parcels drain into a small stream which, after crossing Gibbs Road, flows directly into Long Pond.

The U.S.D.A Soil Conservation Service Soil Survey of Berkshire County rates the soils as Peru-Marlow, Tunbridge-Lyman, or Pillsbury-Loam. All soils are assessed as having some limitations for development because of a potential for slow percolation or bedrock outcroppings. Field assessment of the lots revealed relatively flat sites on the lots which could be developed. Furthermore field assessment revealed at layer of sandy soil on the lot currently under development. A full percolation test would be required to fully assess the development potential of the lots but it appears the lots would be developable given the development of adjacent lots and site characteristics.

Lots 12-15 and 8-50 are rated the highest priority for acquisition as both these lots are currently being offered for sale. As of June 1, 1993 lot 12-15 is being offered by Halko

Real Estate (1-800-243-3113) and lot 8-50 is being offered by Michael Deep (413-664-1053). The asking price for lot 12-15 is "mid-$30,000's". The asking price for lot 8-50 is $14,900.

The middle priority parcels are rated on an opportunity basis. These parcels are not yet for sale. Direct contact with the current land rivers may result in lower costs due to avoidance of realtor costs.

Only a small portion of lot 12-3 is in the Long Pond watershed. This parcel should be rated a lower tier priority. The following table contains a cost estimate of acquisition.

Gibbs Road Acquisition Parcel Prioritization for the Long Pond Reservoir

	Lot Map & Parcel Number	Assessed Value (as of 4/93	Estimated Sale Price (range)
Highest	12-15	$ 37,300	$ 30,000 - $40,000
Priority	8-50	$ 26,900	$ 15,000 - $ 30,000
Subtotal:		$ 64,200	$ 45,000 - $ 70,000
Medium	8-49	$ 27,000	$ 20,000 - $ 30,000
Priority	8-51	$ 26,900	$ 20,000 - $ 30,000
	8-52	$ 26,900	$ 20,000 - $ 30,000
	8-53	$ 32,100	$ 25,000 - $ 35,000
	8-54	(est.) $ 37,300	$ 30,000 - $ 40,000
Subtotal:		$150,200	$115,000 - $165,000
Lower	12-3	$121,000	$100,000 - $150,000
Priority			
Total:	8 parcels	$335,400	$260,000 - $385,000
	164 acres		

Acquisition of all lots would be a large investment for Blandford. An acquisition strategy should include a phased approach whereby acquisition is spread out over a number of years. State and federal grants should be obtained, such as the Federal Land and Water Conservation Funds. Since these parcels contribute to two public water supplies, Blandford's and Springfield's cost sharing between those two communities should be considered. While the total amount appears high it is considerably less than the estimated 2 million dollar cost for a filtration plant. Acquisition of these parcels would give Blandford complete control of the watershed.

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Blandford/Otis Watershed land - Property in Otis April 6, 1993

Value	Map	Parcel	Owner	Rec. Date	Book	Page	Area	Previous Owner
$ 14,500	12	5	Catherine Symington & Stanley Brainard to: J.J. Walsh Box 321 East Otis, MA 01029	11/26/64	790	446	1.02	Roland Wilcox
$121,000 (open land)	12	3	Marian Symington & Clifford Symington 90 Birchwood Road East Hartford, CT 06118	10/1/64	790	447	110.0	-
$125,600 (residence)	12	4	Marian Symington & Stanley Brainard 90 Birchwood Road East Hartford, CT 06118	10/01/64	790	448	2.5	-
$ 37,300	12	15	Barbara Altman 167 Woodlawn Road Newton, MA 02166	10/17/90	1313	379	14.075	Patten Corp.
$ 23,100	8	43	Charles Pecorino 304 Bushy Hill Road Simsbury, CT 06070	9/13/82	1063	24	2.016	Sugarhouse Heritage Corp.
$114,200 (residence)	8	45	Charles Betancourt 90-01 210 Place Queens Vill., NY 11428	10/18/82	1064	575	4.406	Sugarhouse Heritage Corp.
$ 27,100	8	49	Marcia Hamley RR #1, Cottage Street New Hartford, CT 06057	5/23/85	1117	130	5.053	N.E. Auction & Land Co.
$ 27,000	8	47	Daniel Goldbaum 945-B Cromwell Avenue Rocky Hill, CT 06067	11/29/83	1084	968	5.017	Sugarhouse Heritage Corp.
$ 27,000	8	48	Mary Gilbert (Szafran) 126 Joseph Avenue Westfield, MA 01085	6/17/85	1119	115	4.406	Sugarhouse Heritage Corp.
$ 27,000	8	49	Daniel Szafran 126 Joseph Avenue Westfield, MA 01085	5/17/85	1119	113	4.975	Sugarhouse Heritage Corp.
$ 26,900	8	50	Michael Deep 1 Post Office Square North Adams, MA 01247	10/17/91	1340	1039	4.963	Caroline Mullin
$ 26,900	8	51	Robert Bierwith 32 Dorchester Avenue Pittsfield, MA 01201	7/27/88	1241	401	4.958	Sugarhouse Heritage Corp.
$ 26,900	8	52	Emsly Johnson 15 Beatrice Avenue Bloomfield, CT 06002	11/10/82	1065	738	4.958	Sugarhouse Heritage Corp.

Value	Map	Parcel	Owner	Rec. Date	Book	Page	Area	Previous Owner
$ 32,100	8	53	Carolee Clark 72 Kingsbury Street Wellesley, MA 02181-4347	10/12/82	1064	321	4.962	Sugarhouse Heritage Corp.
	8	54	Kerry Smith 225 Hicks Avenue Meriden, CT 06450 Raymond Hard 1527 Highland Avenue Cheshire, CT 06410	12/17/82	1066	835	15.181	Sugarhouse Heritage Corp.

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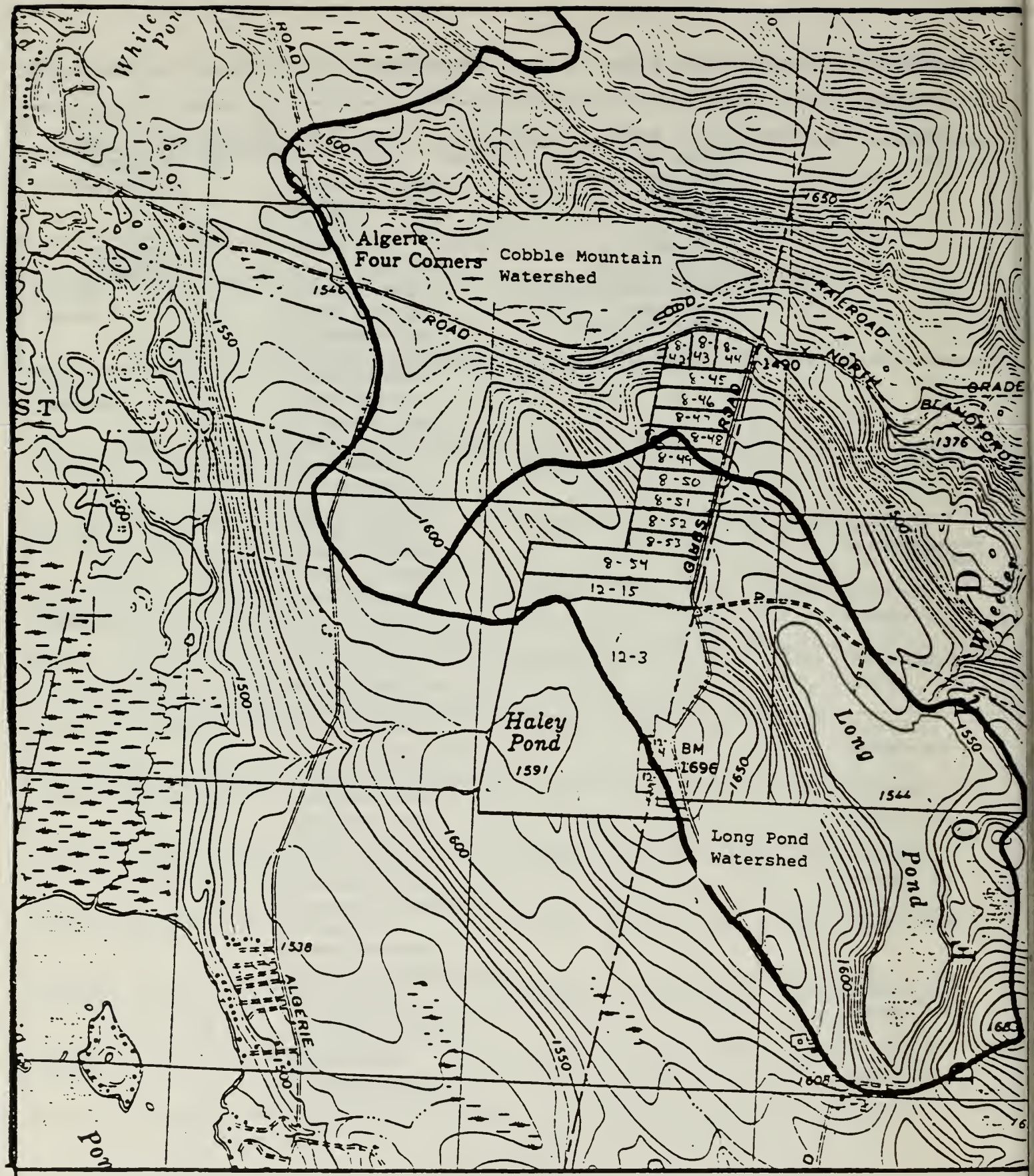

PROPERTY INVENTORY - LONG POND / COBBLE MOUNTAIN RESERVOIR

Land Along Gibbs Road in Otis

Spring 1993

DRAFT

REGIONAL PROTECTION OF WATERSHEDS: *A PROPOSAL FOR A REGIONAL WATER PROTECTION GROUP FOR THE SOUTHERN HILLTOWN AREA.*

Problem Identification:

Watersheds for large public water supplies are often located outside of the municipal boundaries of that community. This primarily occurs with supplies serving densely settled urban areas where there is often little undeveloped land to serve as watersheds for drinking water supplies. In these instances water supply reservoirs are located in rural communities adjacent to urban areas. In the Pioneer Valley Region the drinking water supply watersheds for most of the large municipalities, Springfield, Westfield, Holyoke, Northampton, Amherst and many of the smaller ones are located on other municipalities.

Contamination of surface water supplies results predominantly from inappropriate land uses within sensitive watershed areas, through either point source contamination, from, for instance, discharge from the end of a pipe, or non-point source contamination from, for example, contaminated run-off. The best way to prevent water supply contamination is to control land uses.

Land use controls in watersheds happens when land is purchased by the water supplier or regulated. Land purchase by the water supplier is the most secure and complete method of land use control. Purchase of an entire watershed, especially for large watersheds, is often not possible because of fiscal constraints and pre-existing land owners unwilling to sell. Land purchase can provide a source of income to the water supplier through well-managed forest harvest but also results in increased management responsibilities.

Regulation occurs at the state or local level. State regulations and law generally restrict, prohibit, or set conditions on some of the most potentially hazardous land uses within watershed areas such as NPDES or hazardous discharges to water bodies, storage of sludge, and siting of landfills and hazardous waste landfills. In addition the State Environmental Code, Title V, and the Wetlands Protection Act offer limited protection by setting minimum standards for certain aspects of development. In general, however, state laws and regulations, alone, are inadequate to protect surface water supplies.

In Massachusetts, which has retained strong home rule power, most of the authority for land use control lies at the local, or municipal level. Municipalities can adopt zoning laws to restrict, or prohibit potentially hazardous land use in watershed areas, can adopt large lot size requirements to re-mediate against residential non-point source pollution, can adopt Board of Health regulations to prohibit underground storage tanks and increase the minimum standards for on-site septic systems set forth in Title V, can prevent hazardous materials in town, etc. In short, there are a wide range of tools municipalities can use at the local level to protect surface water supplies. Many municipalities across Massachusetts and the region have successfully adopted local land controls to protect drinking water supplies.

Impediments to Regional Protection

The single most important issue, however, for the lack of protection of regional surface water supplies is that <u>there are little incentives</u> for residents in the host community, the community where the watershed is located, to adopt local restrictions to protect a water supply for a guest community. In fact, most often there more disincentives than incentives.

Common reasons for host communities to protect regional supplies are: ancillary protection of local drinking water supplies, including private wells; overall concern for environmental protection; public relations with neighboring communities; overall concern with high regional water quality,

especially important if many residents of the host community spend time away from the community, for instance, working in the host community; and a desire by the host community for the guest community to thrive because of a dependency of the smaller, host community on the larger urban community for jobs and cultural, and economic opportunities

Common reasons for host communities not to protect regional water supplies are; infringements of property rights; potential diminution of property values; potential decrease in future tax revenue; potential loss of land devoted to industrial or commercial use; and potential increase in costs to both the municipalities and residents to comply with increased restrictions. Many of the reasons for host communities not to protect regional supplies are perceived and often times unfounded, for instance land values can increase adjacent to protected properties. There are also less tangible reasons for host communities not to protect regional watersheds. These can range from previous instances of ill-will or conflict between the two communities to the general trend for rural communities not to embrace land use restrictions to the same degree as urban areas.

It is very difficult for local land use restrictions to become adopted in host communities to protect regional watersheds. When this happens a **lose-lose** situation is created. In the face of increased federal and state regulations the guest community is forced to spend more money either to protect land through acquisition, provide increased water quality testing and monitoring, and, in a worse case scenario, provide increased water treatment. The host community loses because of the potential for increased state regulation which removes land use decisions and powers in these sensitive areas, completely from local authority. The Massachusetts Department of Environmental Protection is now considering such legislation.

Potential for Regional Cooperation

There is an alternative to this no-win situation. That alternative is cooperative participation in protection of regional water supplies. There is one overall goal of regional participation. That goal is for participating communities to benefit from the participation.

There are several criteria for a successful cooperative regional water protection effort. Those criteria are as follows. A group must be established which: has equal and fair representation between members communities; is impartial and removed from previous political agendas; has the authority, strength, and wherewithal to take positive, effective action (this requires a regular source of funding): establishes trust and credibility in the communities and with of those residents of the communities; has broad support in the communities (most likely through the approval of town meeting or city council votes); and devises a method for fair and impartial allocation of resources.

It is proposed a regional water supply protection group be established for the protection of water supply resources in the Southern Hilltowns covering the Springfield Watershed. This group should concentrate on promoting the better management of potentially hazardous land uses in watershed areas. A regional watershed protection body of some sort (perhaps established under MGL Chp. 40 sec. 39K, see attached) would be created. The primary purpose of this group would be action oriented, focusing on specific water supply protection activities which could include: removal of underground storage tanks; inspection of septic systems; targeted land acquisition; development of spill emergency response plans; discontinuance of unwanted town roads, etc. The specific activities would be decided by the group. Implementation of the activities would occur through providing grants to residents or municipalities. Residents or municipalities would then be responsible for carrying out the activity. Perhaps a cost sharing program could be established. An example of how this might work might be a grant to a homeowner to remove a UST Providing grants would remove the regional groups from liability, if for instance the tank should be found leaky. Funding for this group could come from a variety of sources including state or federal grants. Some portion of funding could come from participating communities, perhaps with a large share provided by a quest community.

Benefits to Regional Cooperation

The benefits to participating in this group for the host community(s) would be retaining control of important land use decisions, potential sources of funding for activities the community(s), or residents, might have to assume anyway, and a cost effective means to achieve protection of local water supplies. Benefits to the guest community would be improved water quality or water quality protection and a cost effective means to comply with increasingly stringent and costly state and federal legislation.

§ 39K. Drinking Water Protection District; Purpose; Commission; Membership; Pricing System; Charges and Fees; Fund; Bonds; Security Interests; Pledges; Power and Authority of Commission.

(a) Any city or town which accepts the provisions of this section either by a majority vote of the city or town council or by majority vote at an annual town meeting, may establish a drinking water protection district in conjunction with at least one other city or town sharing a common drinking water resource, including but not limited to an aquifer, a recharge area or a watershed. Said drinking water protection district shall be for the purposes of water conservation, resource management and protection, and resource planning of drinking water supplies in said district including public wells, reservoirs and acquifers which are affected by more than one such city or town.

The drinking water protection commission shall be composed of two members from each municipality in said district to be appointed by the mayor of a city or the board of selectmen of a town for a term of three years.

Each city or town in said district shall adopt a pricing system which charges all users of public or private water supplies within said city or town for protection of water resources. Said pricing system shall not impose a charge in excess of ten percent of the annual cost of water as charged by metered service or fixed rate. If service is without meters or if the water supply is private, a flat fee may be charged; provided, however, that such flat fee shall not exceed ten percent of the average annualized residential or commercial metered use whichever is applicable in such city or town; and provided, further, that in a city or town without a public water system a flat fee to be established by a majority vote of an annual town meeting, town council or city council, whichever is applicable shall be charged.

Such charges of fees collected under the provisions of this section shall be forwarded to the drinking water protection commission which shall deposit the same in the Drinking Water Protection Fund established under subsection (b).

(b) There is hereby established in each drinking water protection district a Drinking Water Protection Fund, hereinafter called fund, to be administered by the drinking water protection commission in each such district.

Said drinking water protection commission shall be eligible to apply for state funding available to a city or town. Upon receipt, such funds shall be deposited in the fund. Contributions, whether public or private, shall also be deposited in the fund for the purposes set forth herein.

Commission members shall serve without compensation. The commission shall elect a chairperson and such officers as it may by rule provide, and may make by majority vote such other rules and regulations consistent with the provisions of this section. The commission may, by majority vote of its members, hire such staff as is necessary to further the purposes of the commission.

A commission may issue bonds as provided herein. The chairperson of any such commission is hereby authorized and empowered in connection with any borrowing under this section to enter into one or more trust or security

For the latest statutes and case citations call 1-800-527-0430.

agreements between such commission and a corporate trustee, which may be any trust company or bank having the powers of a trust company within or without the commonwealth, or directly between such commission and the lenders on the debt obligations, necessary to effectuate and to secure such borrowing. Such agreements may pledge or assign, and create a security interest in, in whole or in part, the revenues and other money held or to be received by the commission from any project being financed or from any fees or charges imposed by such commission relating to the powers of commissions as provided in subsection (c), whether then existing or thereafter coming into existence and whether then held or thereafter acquired by the commission and the proceeds thereof. Such agreements may contain provisions for protecting and enforcing the rights, security and remedies of the holders of such debt obligations, including without limiting the generality of the foregoing, provisions defining defaults and providing for remedies in the event thereof, which may include the acceleration of maturities and covenants setting forth the duties of, and limitations on, the commission in relation to the functioning of the project being financed by such debt obligations, the custody, safeguarding, investment and application of money, the issuance of additional debt obligations, the fixing, revision and collection of fees or other charges relating to water supply protection, the use of any surplus proceeds of the borrowing, including any investment earnings thereon, the establishment of special funds and reserves and the making and amending of contracts relating to such project.

The pledge on any such agreement shall be valid and binding and shall be deemed continuously perfected for the purposes of chapter one hundred and six and any other law from the time when the pledge is made and shall be supported by the full faith and credit of member municipalities. The revenues, money, rights and proceeds so pledged and then held or thereafter acquired or received without any physical delivery or segregation thereof or further act, and the lien of any such pledge, shall be valid and binding against all parties having claims of any kind in tort, contract or otherwise against the commission, irrespective of whether such parties have notice thereof. No document by which a pledge is created need be filed or recorded except in the records of a city or town and no filing need be made under the provisions of said chapter one hundred and six.

Any such trust agreement may provide that any money received thereunder may be deposited or invested, pending the disbursement thereof, in any deposits or investments which are lawful for the funds of cities or towns pursuant to section fifty-five of chapter forty-four, and shall provide that any officer with whom or any bank or trust company with such money shall be deposited shall act as trustee of such money and shall hold and apply the same for the purposes hereof and thereof, subject to such regulation or limitation as this section or such agreement may provide.

It shall be lawful for any bank or trust company to act as depository or trustee of the proceeds of debt obligations, revenues or other money pledged under any such agreement and to furnish such indemnifying bonds or to pledge such security and issue such letters or lines of credit or other credit facilities as may be required by the commission. Any agreement entered into pursuant to this section may set forth the rights and remedies of the holders

For the latest statutes and case citations call 1-800-527-0430.

of any debt obligations and of the trustee and may restrict the individual right of action by any such holders. In addition to the foregoing, any such agreement may contain such other provisions as the commission may deem reasonable and proper. All expenses incurred in carrying out the provisions of such agreement may be treated as a cost of issuance hereunder. In addition to the foregoing, any such agreement may contain such other provisions as the commission may deem reasonable and proper. All expenses incurred in carrying out the provisions of such agreement may be treated as a cost of issuance thereunder. In addition to other security provided by a commission, such debt obligations may be secured, in whole or in part, by insurance or by letters or lines of credit or other credit or other credit facilities issued to the commission by any bank, trust company or other financial institution, within or without the commonwealth, and the commission may pledge or assign any of its revenues and other money held or to be received by the commission from the project being financed or from any fees or charges imposed by such commission relating to water supply protection as security for the reimbursement by the commission to the issuers of such letters of credit, insurance or credit facilities of any payments made thereunder.

Any holder of a debt obligation issued by a commission under the provisions of this section or of any of the coupons appertaining thereto or any trustee under an agreement securing the same, except to the extent the rights herein given may be restricted by such agreement, may bring suit upon the debt obligations or coupons and may, either at law or in equity, by suit, action, mandamus, or other proceeding for legal or equitable relief, including proceedings for the appointment of a receiver to take possession and control of the facilities financed by such debt obligations to operate and maintain the same, to make any necessary repairs, renewals and replacements in respect thereof and to fix, revise and collect fees and charges, protect and enforce any and all rights under the laws of the commonwealth or granted hereunder or under such agreement or other agreement, and may enforce and compel the performance of all duties required by this section or by such agreements to be performed by the commission by any officer thereof.

A pledge of revenue in accordance with the provisions of this section shall constitute a sufficient appropriation thereof for the purposes of any provision for appropriation for so long as such pledge shall be in effect and, notwithstanding any other general or special law to the contrary, such revenues may be applied as required by the pledge and the agreement evidencing the same without further appropriation. Prior to issuing bonds, said commission shall obtain appropriate bonding authorization from a majority of member municipalities.

No appointments shall be made and no money expended hereunder except by the affirmative vote of a majority of the members of said commission. The commission shall maintain accurate records of its meetings, actions and financial transactions and shall file an annual report which shall be printed in the annual report of each member town. The commission shall prepare an annual budget which shall be subject to approval by a majority of the members of said commission. The provisions of chapter forty-four, not

For the latest statutes and case citations call 1-800-527-0430.

inconsistent with the provisions of this section, shall apply to a drinking water protection district.

(c) The commission shall, subject to the provisions of this section have the power and authority to:

(1) assist municipalities in identification and protection of recharge and watershed areas for existing water supplies and locate and identify future drinking water supplies;

(2) assist municipalities by providing technical assistance for long-term planning to design and propose regional land use management efforts of drinking water resources that cut across town or water district boundaries;

(3) provide funds to assist municipal efforts to acquire land in fee simple, through easements, restrictions or other interests, buy development rights, or manage lands identified as important to drinking water resource supply and protection;

(4) provide for public education regarding water conservation, proper waste disposal and land use in recharge or watershed areas;

(5) supplement local emergency response systems in cooperation with the department of environmental protection incidence response division, which teams shall be available to respond and assist where hazardous waste or chemical spills occur within a recharge or watershed area;

(6) coordinate, educate and disseminate information to the public regarding state and federal programs and monies available for drinking water resource projects;

(7) review and comment on proposed land use which may have an impact on resources of concern to the commission; and

(8) make available to private property owners grants for the removal of underground storage tanks considered by said commission to be a threat to the drinking water resource.

The commission shall not have authority to buy, sell or hold title to land, nor to take property by eminent domain, but may allocate funds to a member town with the stipulation that such funds be applied to the purchase of a specific parcel of land or development rights for a specific parcel of land by the member town to be used only for purposes consistent with the provisions of this section.

A city, by majority vote of city council, or a town, by majority vote at an annual town meeting or town council, may cease to be a member of said district subject to said city or town's share of bonding obligations incurred prior to such vote to withdraw. Said vote shall become effective six months after being certified by the city or town clerk and all funds collected prior to the effective date of withdrawal shall remain the property of the drinking water protection commission; provided, however that in the event that such withdrawal reduces commission membership to less than two municipalities, all funds collected prior to the date of dissolution not necessary to pay all existing obligations of the commission shall revert to the member municipalities on a pro rata basis to be used only for purposes consistent with the protection and enhancement of water supplies.

For the latest statutes and case citations call 1-800-527-0430.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER SUPPLY

FACT SHEET

ESTABLISHING A DRINKING WATER PROTECTION DISTRICT

Cities and towns may want to take advantage of recently approved legislation, MGL Chapter 361 of the Acts of 1989, which is designed to foster and support multi-town approaches to protecting drinking water resources. While aquifers and watersheds are shared resources, the constraints of local government often limit multi-town management and planning of these shared resources.

Many municipalities are taking a leadership role in organizing and/or participating in regional protection approaches, but could use some assistance. In forming a District, municipalities are given an organizational framework and means to finance protection efforts. This Fact Sheet is intended to answer basic questions on the legislation and to encourage interested cities and towns to explore this option. DWS is anxious to assist interested communities and welcomes questions and comments on the topic.

- **What is a Drinking Water Protection District (DWPD)?**

Under Chapter 361 of the Acts of 1989, two or more municipalities with common drinking water resources may form a district for purposes of water conservation, resource management and protection, and resource planning of drinking water supplies, including shared public wells, reservoirs and aquifers.

- **What must municipalities do to form a District?**

Once municipalities have decided they want to form a district, each must obtain a majority vote of its annual town meeting or town council to accept the provision of the enabling legislation. A commission is then formed consisting of two volunteers from each member town, to serve for 3 years without compensation, and to be appointed by respective Mayors or Boards of Selectmen.

- **Is there a funding mechanism to support the District and the Commission?**

Yes! Member towns adopt a pricing system to charge <u>all</u> users of public and private water a fee not to exceed 10% of the town's metered or fixed rate. For privately owned community supplies or those not metered, the fee must not exceed 10% of the annualized residential or commercial metered use. In cities or towns without public supplies, town meeting or council is authorized to establish a flat fee. All fees are deposited in a drinking water protection fund.

- **What is the Commission authorized to do?**

A Commission is authorized to: Administer the Drinking Water Protection Fund, apply for state grants available to cities and towns, accept contributions into the fund, issue bonds, borrow monies and develop rules and regulations to formalize Commission procedures. The Commission must keep accurate records, publish and present an annual report to member town meetings, and obtain a majority approval vote of its annual budget.

- **What assistance is available to member towns through the Commission and District?**

The Commission may -

- provide assistance in identifying recharge areas, watershed boundaries and in locating new drinking water supplies;
- provide assistance with funding to acquire lands or easements for drinking water supply protection;
- provide assistance for long-term planning for regional land use;
- provide public education regarding water conservation, waste disposal, and land use in recharge areas and watersheds;
- supplement emergency response strategies;
- provide coordination and public information on programs and monies available for drinking water resource projects;
- review and comment on proposed land use activities likely to impact resources;
- grant monies to private property owners for removal of underground storage tanks.

- **How are private well owners impacted in member towns?**

They would be charged the same fees as public users, but District funds would be available for projects and initiatives to address some of their specific needs as well as those of public users.

- **Can a member town withdraw from a District or can the District be dissolved?**

Yes. As long as a town's bond obligation is met, a vote from town meeting or council may serve to terminate membership in a District. If all but one town withdraws, the District ceases to exist and, after fulfillment of all obligations, funds revert to towns for use on related resource protection projects.

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APPENDIX E

RUSSELL RECOMMENDED WATER SUPPLY PROTECTION STRATEGY

RUSSELL WATER SUPPLY PROTECTION ZONING BYLAW

4.1 WATER SUPPLY PROTECTION DISTRICT

4.1.0 Purpose of District

To promote the health, safety and welfare of the community by protecting and preserving the surface and groundwater resources of the Town and the region from any use of land or buildings which may reduce the quality and quantity of its water resources.

4.1.1 Definitions

Groundwater: All water found beneath the surface of the ground.

Watershed: Lands lying adjacent to water courses and surface water bodies which create the catchment or drainage areas of such water courses and bodies.

Impervious Surfaces: Materials or structures on or above the ground that do not allow precipitation to infiltrate the underlying soil.

Trucking Terminal: Business which services or repairs commercial trucks which are not owned by the business.

Hazardous Waste: A waste which is hazardous to human health or the environment. Hazardous wastes have been designated by the Regulations of the Massachusetts Hazardous Waste Management Act, Massachusetts General Laws, Chapter 21C.

Aquifer: Geologic formation composed of rock or sand and gravel that contains significant amounts of potentially recoverable potable water.

Primary Aquifer Recharge Area: Areas which are underlain by surficial geologic deposits including glaciofluvial or lacustrine stratified drift deposits or alluvium or swamp deposits, and in which the prevailing direction of groundwater flow is toward the area of influence of water supply wells.

Secondary Aquifer Recharge Area: Areas which are underlain by surficial geologic deposits including till or bedrock, and in which the prevailing direction of surface waterflow is toward public water supply wells or potential sites for such wells.

Hazardous material: Material including but not limited to, any material, in whatever form, which, because of its quantity, concentration, chemical, corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a present or potential threat to human health,

safety, welfare, or to the environment, when improperly stored, treated, transported, disposed of, used, or otherwise managed. The term shall not include oil.

Zone II: means that area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated (180 days of pumping at safe yield, with no recharge from precipitation). It is bounded by the groundwater divides which result from pumping the well and by the contact of the aquifer with less permeable materials such as till or bedrock. In some cases, streams or lakes may act as recharge boundaries. In all cases, Zone II shall extend up gradient to its point of intersection with prevailing hydrogeologic boundaries (a groundwater flow divide a contact with till or bedrock, or a recharge boundary).

4.1.2 Scope of Authority

The Water Supply Protection District is an overlay district and shall be superimposed on the other districts established by this bylaw. All regulations of the Town of Russell Zoning By-law applicable to such underlying districts shall remain in effect, except that where the Water Supply Protection District imposes additional regulations, such regulations shall prevail.

4.1.3 District Delineation

a. The Water Supply Protection District is herein established to include all lands within the Town of Russell, lying within the primary and secondary recharge areas of groundwater aquifers and watershed areas of reservoirs which now or may in the future provide public water supply. The map entitled "Water Supply Protection District", Town of Russell, on file with the Town Clerk, delineates the boundaries of the district.

b. Where the bounds delineated are in doubt or in dispute, the burden of proof shall be upon the owner(s) of the land in question to show where they should properly be located. At the request of the owner(s) the Town may engage a professional hydrogeologist to determine more accurately the location and extent of an aquifer or primary recharge area, and may charge the owner(s) for all or part of the cost of the investigation.

4.1.4 Permitted Uses

The following uses are permitted within the Water Supply Protection District, provided that they comply with all applicable restrictions in this bylaw, including but not limited to Sections 4.1.5 - 4.1.8:

a. Single family residences;

b. Residential accessory uses, including garages, driveways, private roads, utility rights of way, and on-site wastewater disposal systems;

c. Agricultural uses such as farming, grazing and horticulture;

d. Forestry and nursery uses;

e. Outdoor recreational uses, including fishing, boating, and play areas;

f. Conservation of water, plants, and wildlife; wildlife management areas;

g. Excavation for earth removal, provided that the requirements of Sections 5.2 and 4.1.6. are met, and an earth removal special permit is granted by the Board of Appeals.

4.1.5 Prohibited Uses

The following uses are prohibited within the Water Supply Protection District:

a. Business and industrial uses, not agricultural, which generate use, treat, process, store, or dispose of hazardous wastes, including but not limited to metal plating, chemical manufacturing, wood preserving, furniture stripping, dry cleaning, and auto body repair, except for the following:

   i. very small quantity generators of hazardous waste, as defined by 310 CMR 30.00 which generate less than 20 kilograms or 6 gallons of hazardous waste per month may be allowed by Special Permit in accordance with Section 4.1.9 of this bylaw;

   ii. household hazardous waste collection centers or events operated pursuant to 310 CMR 30.390;

   iii. waste oil retention facilities required by M.G.L. C.21, s.52A, and;

   iv. treatment works approved by Mass. Department of Environmental Protection and designed in accordance with 314 CMR 5.00 for the treatment of contaminated ground or surface waters;

b. Business or industrial uses, not agricultural, which dispose of process wastewaters on-site;

c. Trucking terminals, bus terminals, car washes, motor vehicle gasoline sales, automotive service and repair shops, commercial fuel oil storage and sales;

d. Solid waste landfills, dumps, auto recycling, auto graveyards, junk and salvage yards, landfilling or storage of sludge and septage, with the exception of the disposal of brush or stumps;

e. Storage of liquid petroleum products of any kind, except for the following:

   i. Storage which is incidental to:

      (1) normal household use and outdoor maintenance or the heating of a structure;

      (2) emergency generators required by statute, rule or regulation, or;

      (3) waste oil retention facilities required by Mass. General Laws C.21, s.52A;

(4) treatment works approved by the Mass. Department of Environmental Protection designed in accordance with 314 CMR 5.00 for the treatment of contaminated ground or surface waters;

provided that such storage shall be in a free standing, above ground container within a structure or within the basement of a structure, within a diked, impermeable area sufficient to contain the volume of the tank plus 10% to prevent spills or leaks from reaching groundwater, and provided that the storage tank and piping must comply with all applicable provisions of 527 CMR 9.00 Massachusetts Board of Fire Prevention regulations.

ii. Replacement of storage tanks or systems for the keeping, dispensing or storing of gasoline, which existed at the time of adoption of this bylaw, provided that:

(1) all such replacement storage tanks or systems shall be located underground as required by Mass. Board of Fire Prevention regulation 527 CMR 14;

(2) all such storage systems shall be protected by one of the secondary containment systems specified in Mass. Board of Fire Prevention regulations 527 CMR 9.08(3);

(3) the head of the Fire Department may deny an application for tank replacement, or approve it subject to conditions if he or she determines that it constitutes a danger to public or private water supplies, in accordance with 527 CMR 9.26(4)(d).

Replacement of all other storage tanks for liquid petroleum products other than gasoline must be above ground, in accordance with Section e. above.

f. Outdoor storage of salt, de-icing materials, pesticides or herbicides;

g. Dumping or disposal on the ground, in water bodies, or in residential septic systems of any toxic chemical, including but not limited to septic system cleaners which contain toxic chemicals such as methylene chloride and 1-1-1 trichlorethane, or other household hazardous wastes. (See list of prohibited chemicals at Board of Health or Town Clerk's office);

h. Stockpiling and disposal of snow or ice removed from highways and streets located outside of the Water Supply Protection District that contains sodium chloride, calcium chloride, chemically treated abrasives or other chemicals used for snow and ice removal;

i. Individual sewage disposal systems that are designed to receive more than 110 gallons of sewage per quarter acre per day or 440 gallons of sewage per acre per day, whichever is greater, provided that:

i. the replacement or repair or an existing system, which will not result in an increase in design capacity above the original design, shall be exempted;

ii. in calculating maximum sewage disposal system density, it shall be assumed that each residential bedroom will generate 110 gallons of sewage;

iii. maximum sewage disposal system density may be calculated:

(1) on an individual per lot basis (i.e., a 3-bedroom home generates 330 gallons of sewage per day requiring a 3/4 acre minimum lot area;

iv. In addition to meeting the standards above, all lots shall also conform to any applicable minimum lot size requirements contained in this Zoning Bylaw.

j. Wastewater treatment works subject to 314 CMR 5.00 (those treatment works which discharge over 15,000 gallons per day to the ground), except the following:

i. the replacement or repair of an existing system(s) that will not result in a design capacity greater than the design capacity of the existing system(s);

ii. the replacement of an existing subsurface sewage disposal system(s) with wastewater treatment works that will not result in a design capacity greater than the design capacity of the existing system(s), and;

iii. treatment works designed for the treatment of contaminated ground or surface waters subject to 314 CMR 5.00.

4.1.6 Restricted Uses

The following are restricted in the Water Supply Protection District:

a. Excavation for removal of earth, loam, sand, gravel and other soils or mineral substances shall not extend closer than five (5) feet above the historical high groundwater table (as determined from on-site monitoring wells and historical water table fluctuation data compiled by the United States Geological survey, whichever is higher). A monitoring well shall be installed by the property owner to verify groundwater elevations. This section shall not apply to excavations incidental to permitted uses, including but not limited to providing for the installation or maintenance of structural foundations, freshwater ponds, utility conduits or on-site sewage disposal.

i. Access road(s) to extractive operation sites shall include a gate or other secure mechanism to restrict public access to the site.

ii. Upon completion of earth removal operations, all altered areas shall be restored with topsoil and vegetative plantings suitable to control erosion on the site. All fine materials, such as clays and silts, removed as part of the earth removal operation and leftover as by-products, shall be disposed of off-site to prevent damage to aquifer recharge characteristics.

b. Sodium chloride for ice control shall be used at the minimum salt to sand ratio which is consistent with the public highway safety requirements, and its use shall be eliminated on roads which may be closed to the public in winter.

c. The storage of sodium chloride, calcium chloride, chemically treated abrasives or other chemicals used for the removal of ice and snow on roads shall be covered and located on a paved surface with berms, or within a structure designed to prevent the generation and escape of contaminated run-off.

d. Fertilizers, pesticides, herbicides, lawn care chemicals, or other leachable materials shall be used in accordance with the Lawn Care Regulations of the Massachusetts Pesticide Board, 333 CMR 10.03 (30, 31), as amended, with manufacturer's label instructions and all other necessary precautions to minimize adverse impacts on surface and groundwater.

e. The storage of commercial fertilizers and soil conditioners shall be within structures designed to prevent the generation and escape of contaminated run-off or leachate.

f. To the extent feasible, all new permanent animal manure storage areas shall be covered and/or contained to prevent the generation and escape of contaminated run-off or leachate.

g. All liquid hazardous materials, as defined in M.G.L. Chapter 21E, must be stored either in a free standing container within a building, or in a free standing container above ground level with protection to contain a spill the size of the container's total storage capacity.

h. In cases where soil percolation rates are faster than two minutes per inch, additional measures such as appropriate fill materials, may be imposed by the Board of Health to slow the percolation rate for on-site sewage disposal systems. (See Board of Health Regulations)

4.1.7 Drainage

a. For commercial and industrial uses, to the extent feasible, run-off from impervious surfaces shall be recharged on the site by being diverted toward areas covered with vegetation for surface infiltration. Such run-off shall not be discharged directly to rivers, streams or other surface water bodies. Dry wells shall be used only where other methods are infeasible, and shall be preceded by oil, grease and sediment traps to facilitate removal of contamination. All recharge areas shall be permanently maintained in full working order by the owner(s).

4.1.8 Area Regulations

a. Within the primary aquifer recharge area the minimum allowable lot size shall be 40,000 square feet in areas not served by municipal sewerage systems.

4.1.9 Special Permit Uses

a. Uses Allowed by Special Permit

The following uses may be allowed by Special Permit obtained from the Zoning Board of Appeal:

i. Commercial, industrial, governmental or educational uses which are allowed in the underlying district, and which are not prohibited in Section 4.1.5;

ii. Any enlargement, intensification, alteration, or change of use of an existing commercial or industrial use;

iii. The rendering impervious of more than 15%, or 2,500 square feet of any lot, provided that a system for artifical recharge of precipitation to groundwater is developed, which shall not result in degradation of groundwater (see Section 4.1.7a.)

b. Requirements for Special Permit in the Water Supply Protection District

The applicant shall file six (6) copies of a site plan prepared by a qualified professional with the Special Permit Granting Authority. The site plan shall at a minimum include the following information where pertinent.

i. A complete list of chemicals, pesticides, fuels and other potentially hazardous materials to be used or stored on the premises in quantities greater than those associated with normal household use.

ii. Those businesses using or storing such hazardous materials shall file a hazardous materials management plan with the Planning Board, Hazardous Materials Coordinator, Fire Chief, and Board of Health which shall include:

(1) Provisions to protect against the discharge of hazardous materials or wastes to the environment due to spillage, accidental damage, corrosion, leakage or vandalism, including spill containment and clean-up procedures.

(2) Provisions for indoor, secured storage of hazardous materials and wastes with impervious floor surfaces.

(3) Evidence of compliance with the Regulations of the Massachusetts Hazardous Waste Management Act 310 CMR 30, including obtaining an EPA identification number from the Mass. Department of Environmental Protection.

iii. Drainage recharge features and provisions to prevent loss of recharge.

iv. Provisions to control soil erosion and sedimentation, soil compaction, and to prevent seepage from sewer pipes.

c. Additional Procedures for Special Permit in the Water Supply Protection District:

i. The Special Permit Granting Authority shall follow all special permit procedures contained in Section 6.4 of this By-law. In addition, the Special Permit Granting Authority shall distribute copies of all application materials to the Board of Health, the Conservation Commission, and the Water Commissioners, each of which shall review the application, and following a vote, shall submit recommendations and comments to the Special Permit Granting Authority. Failure of boards to make recommendations within 35 days of distribution of the applications shall be deemed to be lack of opposition. One copy of the application materials shall be transmitted to or retained by the Town Clerk for viewing by the public during office hours.

ii. The Special Permit Granting Authority may grant the required special permit only upon finding that the proposed use meets the following standards and those specified in Section 4.1.9 of this bylaw. The proposed use must:

(1) in no way, during construction or thereafter, adversely affect the existing or potential quality or quantity of water that is available in the Water Supply Protection District, and;

(2) be designed to avoid substantial disturbance of the soils, topography, drainage, vegetation and other water-related natural characteristics of the site to be developed.

iii. The Special Permit Granting Authority shall not grant a special permit under this section unless the petitioner's application materials include, in the Board's opinion, sufficiently detailed, definite and credible information to support positive findings in relation to the standards given in this section.

4.1.95 Non-conforming Use

Non-conforming uses which were lawfully existing, begun or in receipt of a building or special permit prior to the first publication of notice of public hearing for this bylaw may be continued. Such non-conforming uses may be extended or altered, as specified in M.G.L. Ch. 40a, Sec. 6, provided that there is a finding by the Planning Board that such change does not increase the danger of surface or groundwater pollution from such use.

ADD THE FOLLOWING AMENDMENTS TO THE RUSSELL ZONING BYLAW
AT THE TIME OF ADOPTION OF THE WATER SUPPLY PROTECTION ZONING BYLAW

TABLE OF CONTENTS

ADD: 4.1 Water Supply Protection District

Page 1, Section 2. (after floodplain district)

ADD: WP - Water Supply Protection District: The Water Supply Protection is an overlay district designated on the Water Supply Protection Area Map dated _____.

Page 1, Section 2.1 (last sentence, first paragraph)

ADD: The water supply protection district is defined on the map described in Section 4.1

Page 2 Section 3.0 (last sentence)

ADD See Section 4.1, the Water Supply Protection District, to determine what uses are permitted in the water supply protection district.

Page 7 Table 2 (last line)

ADD: Sentence describing dimensional requirements of WP district

Page 20 New Section

ADD: 5.2.7 Requirements of the Water Supply Protection District
See Section 4.1 for additional special permit regulations in the water supply protection district.

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APPENDIX F

GRANVILLE RECOMMENDED WATER SUPPLY PROTECTION STRATEGY

a. Educational Campaign

b. Underground Storage System Regulations

c. Septic Hauler Inspection

d. Septic System Inspection Upon the Transfer of Property

e. Water Supply Protection Overlay Zoning Bylaw

DRINKING WATER FACTS

Water is the Key to Life:

Humans and animals depend on water. Sixty to seventy percent of the human body is made up of water. Each of the 100 trillion or so cells in the human body is bathed in a water based fluid. The blood traveling through the 60,000 to 70,000 miles of arteries and veins in the body is based on water. Water is so essential to life that the body cannot survive more than 5 days without it.

Safe, clean, good tasting water is essential for good health.

Granville's Water Supplies are Excellent:

Granville residents are fortunate to have an ample supply of high quality, healthy drinking water. Water from the well in your back yard is most likely providing you with safe, clean drinking water. Most likely your well will continue to supply you with a safe supply of drinking water long into the future.

Human Activities Affect Water Supplies:

With simple, common sense land management practices and activities water supplies remain pure and drinkable. However, with poor "land stewardship" and in-appropriate activities water supplies can become contaminated and unusable. Contaminated drinking water supplies are a threat to good health.

prepared by the
Pioneer Valley Planning Commission
in cooperation with the
Granville Water Supply
Protection Advisory
Committee

WATER matters

Safe drinking water for the future

Granville Water Supply Protection Advisory Committee:

The Granville Water Supply Protection Advisory Committee, composed of Granville residents, was formed to address water supply protection concerns specific to Granville. The purpose of the Committee is to make sure Granville residents have an ample supply of clean safe drinking water now and into the future. With technical assistance provided by the Pioneer Valley Planning Commission over the next few months the Committee will distribute a series of water ***"fact sheets"***. These ***"fact sheets"*** are designed to give Granville residents basic information about how to maintain the high quality of drinking water supplies into the future.

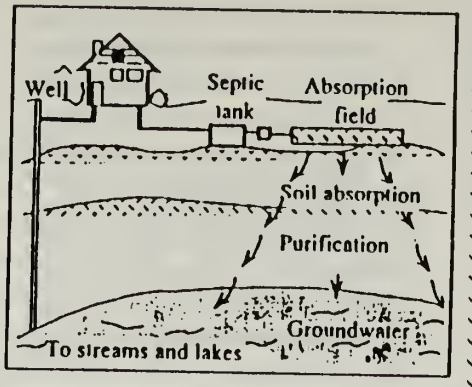
The Granville Water Supply Protection Advisory Committee meets regularly. Interested residents are encourage to participate. Call Tom Matuszko at PVPC, 781-6045, for more information or the Granville Town Hall, 357-8585, for dates and times of meetings.

ABOUT YOUR SEPTIC SYSTEM

Why maintain your septic system?

The septic system is a large investments for the property owner. A properly functioning septic system adequately treats and disposes of wastewater and is an effective, economical, safe means of wastewater disposal. A failed or malfunctioning septic system does not treat wastewater and can be an expensive, unhealthy problem.

Simply speaking, what goes down the drain doesn't just disappear. Water from your sink, shower, or toilet enters your septic system to be purified before returning back to groundwater. Waste water contains chemicals, solids, grease, dirt, bacteria, and viruses. A failed or malfunctioning septic system cannot adequately treat bacteria and viruses and can pollute drinking water wells, or surface and groundwater. Chemicals dumped down the drain or toilet are not treated by septic systems. These materials could also enter into drinking water wells.



Many banks now require septic inspections prior to the sale of a property or before granting a mortgage to protect themselves and/or the owner/buyer. Systems in need of repair will lower the value of the property. Proper maintenance of septic systems can head off major malfunctions and pay off handsomely in the long term.

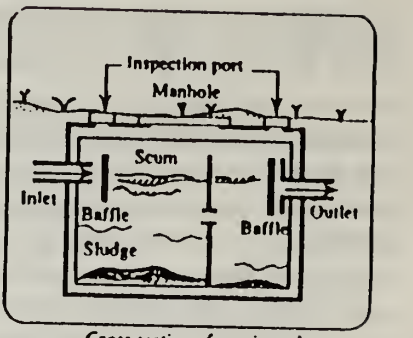
prepared by the
Pioneer Valley Planning Commission
in cooperation with the
Granville Water Supply
Protection Advisory
Committee

WATER matters

Safe drinking water for the future

How your septic system works:

Your septic system has two basic working parts, the Septic Tank and the Leach Field.



Cross section of septic tank

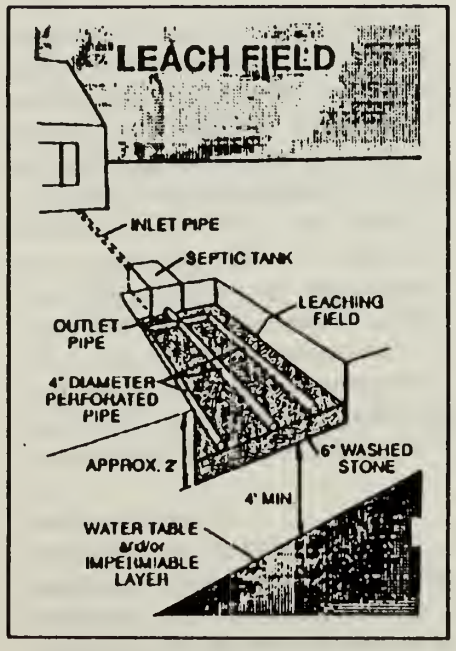
Septic Tank

The purpose of the septic tank (also called the holding tank) is to separate the solids from the liquids. The solids (also called sludge, which is the heavy material that collects on the bottom of the tank and scum, which are the light solids and grease that floats on the top of the water) remain in the tank. Most of the solids are broken down by bacteria into liquid and gases. The liquids flow to the leach field for further purification. The remaining solids must be pumped out periodically.

How to keep your septic system working:

Leach Field

The liquid wastewater from the septic tank is passed on to the absorption field (also called a drain field, leaching field, or nitrification field) through a connecting pipe. Bacteria and microorganisms in the absorption field "treat" the wastewater and filter out many impurities in the soil before the waste water returns to the groundwater system



Find it. Pump it. Protect it.

Here are a few simple actions you can take to keep your septic system working better, longer.

DO's:

Know the location of your septic tank and leach field. Keep a plot plan on file with distances from the tank and leaching field to the house, well, leaching area, and lot lines so any construction or landscaping won't interfere with the working of your system.

Pump the sludge and inspect the system regularly, every 2 to 3 years is preferable, to avoid expensive repairs or pollution of well water.

Practice water conservation to prevent excess water flow to the system . Fix leaky faucets and toilets. Spread laundry loads over several days. Install low flow showerheads and toilets. Run dishwashers only when full.

Direct roof drains, basement sump pump drains and other rain water or surface water drainage systems away from the leaching field. Flooding the leach field with excessive water keeps the soil from naturally cleansing wastewater.

Use boiling water or a drain snake to free up clogged drains rather than caustic drain openers which can kill the bacteria in your system.

DON'T's:

Garbage disposals are a leading cause of septic system failure because they cause the system to work harder. The use of garbage disposals should be avoided or minimized.

Paint, paint thinner, medicine, photography developers, oven cleaners, grease, solvents or any hazardous chemicals are not treated by septic systems. These materials should not be dumped down the drain.

Paper towels, sanitary napkins, disposable diapers or plastic items are not treated by septic systems. These items should not be entered into the system.

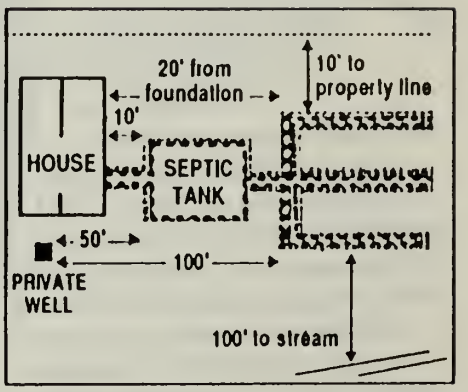
Roots from plants and trees can affect leaching fields and drain pipes. Plant trees and large plants well away the leaching facility.

Heavy equipment can damage the leaching field, pipes, and the septic tank. Heavy equipment should be steered away from all parts of the system.

Above ground swimming pools should not be placed over the system.

Paving on top of the system affects how the system functions. Keep the system unpaved.

There is no proof that chemical or enzyme additives are effective remedies for a failing system, contrary to what ads for those products may claim.



A final note: A number of households in Granville have cesspools instead of septic systems. A cesspool combines the functions of a septic tank and the leaching facility in one structure. Cesspools fail rapidly and routinely. If you have a cesspool you should consider replacing it with a modern septic system before it becomes a health hazard. New construction or repair of cesspools is illegal under state law because of the potential risk to human health.

For further information call the Granville Town Hall (357-8585) or, for technical information about septic systems, the Pioneer Valley Planning Commission

UNDERGROUND STORAGE TANKS

Why Think About Your Underground Storage Tank?

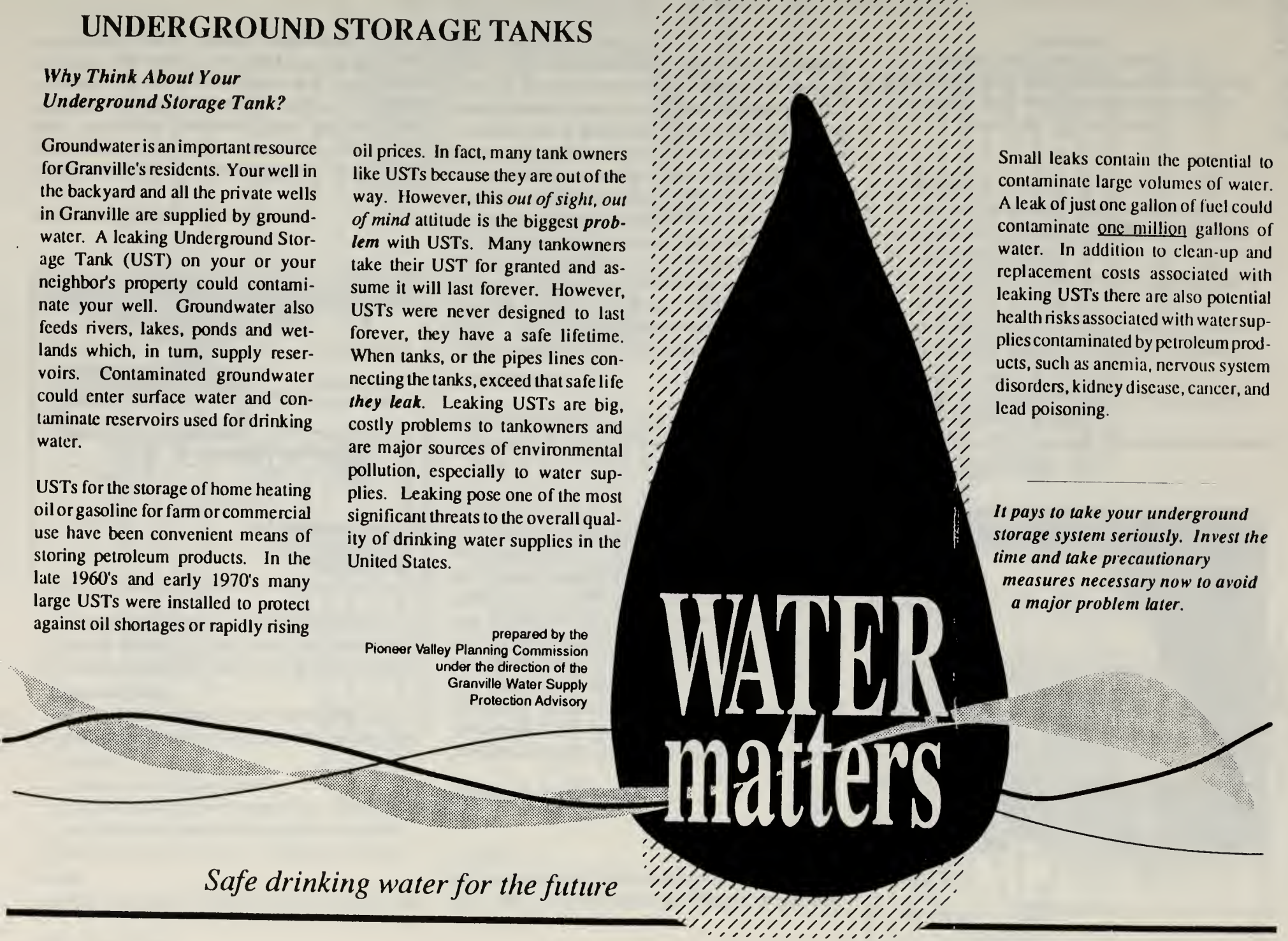
Groundwater is an important resource for Granville's residents. Your well in the backyard and all the private wells in Granville are supplied by groundwater. A leaking Underground Storage Tank (UST) on your or your neighbor's property could contaminate your well. Groundwater also feeds rivers, lakes, ponds and wetlands which, in turn, supply reservoirs. Contaminated groundwater could enter surface water and contaminate reservoirs used for drinking water.

USTs for the storage of home heating oil or gasoline for farm or commercial use have been convenient means of storing petroleum products. In the late 1960's and early 1970's many large USTs were installed to protect against oil shortages or rapidly rising oil prices. In fact, many tank owners like USTs because they are out of the way. However, this *out of sight, out of mind* attitude is the biggest ***problem*** with USTs. Many tankowners take their UST for granted and assume it will last forever. However, USTs were never designed to last forever, they have a safe lifetime. When tanks, or the pipes lines connecting the tanks, exceed that safe life ***they leak***. Leaking USTs are big, costly problems to tankowners and are major sources of environmental pollution, especially to water supplies. Leaking pose one of the most significant threats to the overall quality of drinking water supplies in the United States.

Small leaks contain the potential to contaminate large volumes of water. A leak of just one gallon of fuel could contaminate one million gallons of water. In addition to clean-up and replacement costs associated with leaking USTs there are also potential health risks associated with water supplies contaminated by petroleum products, such as anemia, nervous system disorders, kidney disease, cancer, and lead poisoning.

It pays to take your underground storage system seriously. Invest the time and take precautionary measures necessary now to avoid a major problem later.

prepared by the
Pioneer Valley Planning Commission
under the direction of the
Granville Water Supply
Protection Advisory

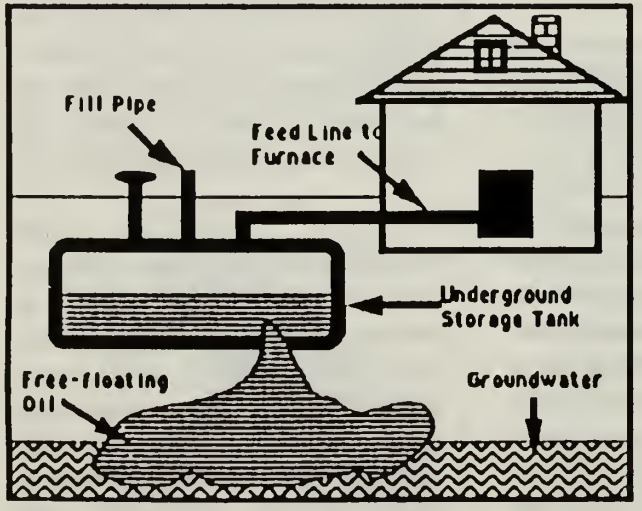


Safe drinking water for the future

Why Tanks Leak

Underground Storage Tanks leak because of three main reasons:

1) Corrosion from exposure to external sources (rust). This is especially the case with single wall bare steel tanks installed in corrosive soils. Nicks on the outside of tanks will hasten corrosion.
2) Corrosion or damage from the inside. Normal use, such as using a dipstick to test the amount, can cause corrosion.
3) Improper installation, such as using large stones as backfill, can cause leaks. Leaks also are caused by loose fittings or corrosion in the piping system.



How to Tell if There is a Problem?

The biggest cause of concern with USTs is there is no good way to tell if they are leaking until they actually leak. Tank tests are expensive ($400 - $800) and often ineffective. Visual inspection of tanks is impossible. In fact, many tank and property owners don't know the age of the tank, especially if the property was recently bought and is an older home. Properly installed bare steel wall tanks typically last for about 20 years before they leak. However, improperly installed tanks can leak in as few as 3 - 5 years.

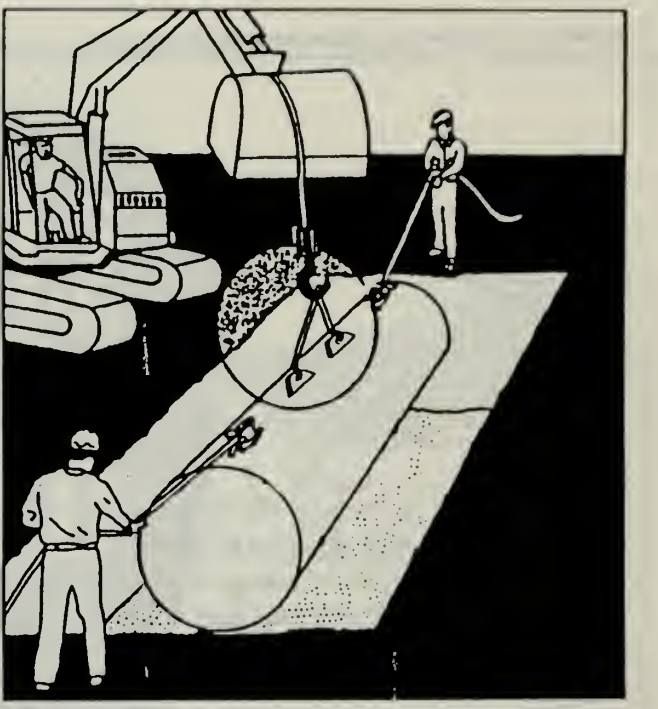
Balancing The Cost Factor

Dealing with older USTs is costly, there is no way out. Depending on tank location and size it could cost approximately $1,000 or more to remove a non-leaking UST. While this seems like a lot of money, it is only a small percentage of clean-up costs, even for a small leak. A contamination problem could be extremely expensive. Tank owners are liable for damages to someone else's drinking water supply and/or removal of contaminated soil. Homeowner insurance policies often exclude coverage of leaking USTs. To replace a UST with a new tank in the basement starts around $750 and depends on total capacity.

Prevention is the Best Cure. Steps a Tank Owner Can Take.

Tank Removal

The best action a tank owner can take is to have a UST removed especially bare steel tanks over 20 years old or where the tank age is unknown. **IMPORTANT:** State law (527 CMR 9) requires that tanks be tested or removed only under the direction of the Granville fire department and disposed of in approved locations. You should contract with a qualified tank removal specialist to remove and dispose of a UST. A tank can be filled with concrete only if the tank is under a building, or next to another operating tank. Tanks that are "temporarily out of service" (for 6 months or more) are especially apt to develop leaks because they may fill with water; therefore they may not be refilled without approval by the Fire Chief. Many banks now require that tanks be removed before granting a mortgage.



Other Leak Prevention Tips

If you can't have your tank removed there are other leak prevention steps you can take.

- Check your heating system, even after professional repairs.
- Inspect the tank, lines, vent pipe and rainwater cap, and replace any rusted, aging or damaged parts.
- Install an overfill warning device on the tank if it doesn't have one.
- Call your oil company if you notice a sudden or dramatic increase in fuel use that can't be explained.

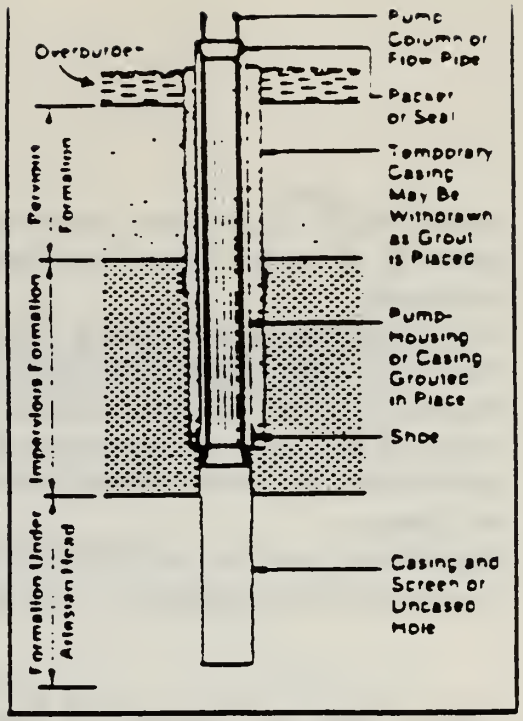
For further information call:
Granville Town Hall (357-8585) or, technical information about underground storage tanks, the Pioneer Valley Planning Commission (781-6045).

DRAFT

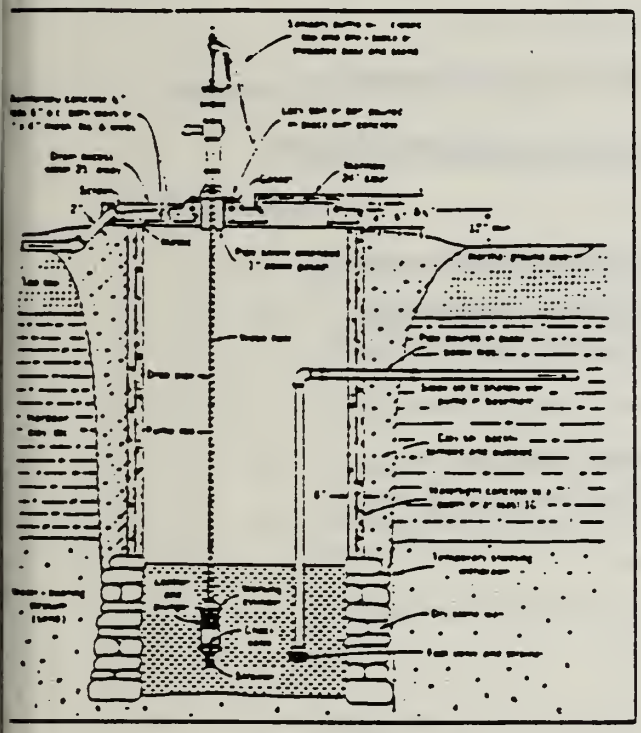
About Private Wells

How Does Your Well Work?

Groundwater, which is water beneath the surface of the ground which has percolated through the soil and filled the spaces, pores, and cracks in the sands, gravels, and fractured rock beneath the soil supplies the private well at your home or farm. The well in your backyard is most likely a shallow (dug) well or a drilled well. Dug wells are usually between 12 - 30 feet deep dug into the soil and lined with well tiles. Drilled wells may be several hundred feet deep and are drilled into the rock below the soil. Both types of wells have pumps, and may have storage tanks, to deliver the groundwater to your plumbing system.



Appropriate Construction for a Nonflowing Artesian Well



Construction Details a for Standard Dug Well

About Water Quality.

Generally the quality of water from private wells is safe and good, especially in rural areas such as Granville. However groundwater can contain naturally dissolved minerals and organic substances which can affect the taste, smell and appearance of water. Materials from land use activities on the surface of the land can filter down to the water supply and contaminate the water supply. Land use contaminants can cause health problems.

Owners of private wells are primarily responsible to maintain the water quality of their water and to prevent health problems. It is also the responsibility of the landowner to protect against harmful land use activities which could contaminate a well.

How Do I Know If My Private Well is Safe ?

The best source of information about the quality of your well water is a reliable water test. There is no general overall water quality test. You need to specify what you want to test for. To establish a base line from which to gauge future quality problems you should test for total coliform bacteria, lead, iron, nitrate, manganese, hardness, sodium, chloride,

arsenic, and pH. If you are in an area of intensive agricultural use you should test for pesticides. If you are located near Underground Storage Tanks test for volatile organic compounds.
Water quality testing is expensive. A good practice is to test comprehensively to establish a baseline or when buying a new home, and then test every three to five years. Testing should occur if you suspect a problem. Re-test when there are septic system problems, changes in land use in the neighborhood, and reports of problems with a neighbor's well. Yearly tests should be conducted for the most likely common problem sources, bacteria and nitrates.
Regardless of how often you test use only state certified laboratories (listed in the Yellow Pages under "Water Analysis" or a list available from Mass. DEP, 617-292-5770)

Action Steps for Private Well Owners

There are several actions you can take as a landowner to protect the quality of the water from your private well. These are

Avoid dumping used motor oil, solvents, cleaning fluids, paints, gasoline on the ground.

Restrict the use of pesticides and lawn fertilizers and use only in strict accordance with the manufacturers label.

Learn the location of your well on your lot and identify and assess potentially threatening land uses within at least 200 feet from your well including underground storage tanks, animal rearing and/or manure storage areas, septic tanks and leach fields, roadways, and rights of way.

Keep you septic system in good working order by having it inspected and pumped regularly. Avoid putting solids and chemicals down the drain. Don't use septic system additives in your septic system.

Restrict the use of salt for snow and ice control

DRAFT - FOR DISCUSSION ONLY 5/6/93

Prepared for the Granville Water Supply Protection Advisory Committee

This form provides for the inspection of septic systems by septic haulers at the time of pumping by the septic hauler. This form is to be completed by the septic hauler and submitted by them to the local Board of Health for review. Local Board of Health members then prescribe corrective action for deficient or problem systems, as needed.

SEPTIC SYSTEM INSPECTION REPORT FOR SEPTIC HAULERS

Date of Inspection:_____

Septic Tank Owner: _____
Name

_____
Address (number, street, city/town, state & ZIP code)

_____
Location of Property (number and street)

Septic Hauler: _____
Name of Firm

_____
Name of Firm Representative

Description of Sewage Disposal System:

Septic tank, capacity:_____gallons

Result of Inspection:

A. Amount of septage pumped from the Tank:_____ gallons. Date pumped_____

B. Describe accumulation of solids found in tank:_____
_____

C. Is outlet tee/baffle in place in tank? Yes___ No_____

D. Is inlet tee/baffle in place in tank? Yes____ No_____

E. Prior to pumping, is liquid level in tank above the tank outlet? Yes___ No_____
Unkown (Explain)_____

F. Was liquid observed flowing from the outlet back into the tank during or after pumping?

Yes_____ No_____

G. Algal growth: Yes ____ No_____

H. Odor? Yes_____ No_____

Comments:

_____

_____

This report is advisory only. The Septic Hauler is not liable for damages which may result from this report. The Septic Tank Owner is advised to contact the (Town/City) Board of Health if this report reveals problems, or potential problems.

THIS REPORT IS TO BE SUBMITTED TO THE (TOWN/CITY) BOARD OF HEALTH

F-SEPHAL.doc/bb

5/1/93
Updated

Prepared for the Granville Water Supply Protection Advisory Committee

These model Underground Storage System regulations contain provisions for the registration of all existing Underground Storage Systems, require that underground storage tanks over 20 years old be removed at the time of transfer of property, require that new tanks within an identified water supply protection area be located within a basement, prohibit new underground tanks for the storage of gasoline in water supply protection areas, and allow for the replacement of existing underground storage tanks for gasoline. A similar version to this model regulation has been adopted in 8 communities in Hampshire and Hampden Counties.

MODEL UNDERGROUND STORAGE SYSTEM REGULATIONS

1.00 AUTHORITY

WHEREAS, leaking underground storage sytems containing toxic or hazardous materials pose an immediate and serious threat to the _____;

WHEREAS, the (Town/City) of _____ needs accurate records of the location, age and ownership of all such systems within the (Town/City) of _____;

THEREFORE, the (Town/City) of _____ adopts the following measures under its home rule powers, its police powers to protect the public health and welfare, and its authority under M.G.L., Ch. 40, Section 21, in order to protect the ground and surface waters from contamination with liquid toxic or hazardous materials.

1.01 DEFINITIONS

a. Underground Storage System: any underground storage tank and piping for toxic or hazardous materials.

b. Toxic or Hazardous Materials: all liquid hydrocarbon products including, but not limited to, gasoline, fuel and diesel oil, toxic or corrosive chemicals, radioactive materials, or other substances controlled as being toxic or hazardous by the Division of Hazardous Waste of the Commonwealth of Massachusetts, under the provisions of Massachusetts General Laws, Chapter 21C, Section 1, et seq.

c. Underground Storage: storage of petroleum products or other toxic or hazardous materials below ground level but not including storage in a free-standing container within a building.

1.02 REGULATIONS FOR ALL UNDERGROUND STORAGE SYSTEMS

The following regulations shall apply to all underground storage systems containing toxic or hazardous materials, as defined above.

1.021 Compliance with Applicable State Regulations

Every owner of an underground storage system for fuel or other hazardous or toxic materials shall comply with 527 CMR 9.00 and all other applicable state regulations for such storage.

1.022 Registration of All Underground Storage Systems

a. Every owner of an existing underground storage system for toxic or hazardous materials including petroleum products, whether in use or abandoned, shall apply to the Fire Department for a permit to have a storage facility. Application shall be made within one hundred twenty (120) days of the effective date of this bylaw on a form provided by the Fire Department, which shall contain, at a minimum, the following information:

(1) Name, address and telephone numbers of the owner and operator;
(2) Address of storage tank location;
(3) The type of materials stored;
(4) Tank size and construction type for tank and piping;
(5) Evidence of the date of installation and of system warranty. (Where the age of a tank is unknown, the tank shall be presumed to be 25 years old.)
(6) Plot plan of the site, if available, including location of the tank, pumping components, any wells or water bodies, and any subsurface drains;
(7) Appropriate tank location marked on a copy of a 8 1/2 X 11" street atlas map or United States Geological Survey topographic map, provided with the Fire Department's application form;
(8) Leak detection, overfill prevention, and spill containment devices;
(9) Corrosion prevention, if any.

1.023 Registration Tags

a. Upon registering the tank with the Fire Department, the tank owner will receive a permanent metal or plastic tag, embossed with a registration number unique to that tank. This registration tag must be affixed to the fill pipe or in such location as to be visible to any inspector authorized by the Town.

b. Effective _____ (date), every petroleum or other chemical distributor, when filling an underground storage tank, shall note on the invoice or bill for the product delivered, the registration number appearing on the tank. Every petroleum or other chemical distributor shall notify the Fire Department of the existence and location of any unregistered or untagged underground tank, or any tank which the distributor cannot clearly identify as being either above or below ground, which they are requested to fill. Such

notification must be completed within two (2) working days of the time the distributor discovers that the tank registration tag is not present.

1.024 Underground Tanks 20 Years or Older

For any underground tank or storage system 20 years or older, the Town shall send a notice to the owner strongly recommending that the tank be drained and removed, or that a testing system, approved by the Fire Chief, be instituted to ensure that the tank is not leaking. The notice shall inform the owner of the potential hazards and liabilities of a leaking tank.

1.025 Tank Removal

a. Prior to the removal of an underground storage tank governed by this regulation, the owner shall first obtain a permit from the Fire Marshall or head of the Fire Department, pursuant to M.G.L., Chapter 148.

b. Any person granted a permit by the Marshall or the head of a local Fire Department to remove a tank under the provisions of M.G.L., Chapter 148 or 527 CMR 9.00 shall within 72 hours provide the permit granting authority with a receipt for delivery of said tank to the site designated on the permit.

c. Before any person is granted a permit by the Marshall or the head of a local Fire Department to remove a tank under the provisions of M.G.L., Chapter 148 or 527 CMR 9.00, and said tank is not being transported to an approved tank yard, the person requesting the permit shall provide the permit granting authority with written approval from the owner/manager of the disposal site. (Reference 502 CMR 3.00 for tank removal and disposal procedure).

d. When any tank is removed, the tank filler pipe must also be removed or permanently sealed.

1.026 Costs

In every case, the owner shall assume responsibility for costs incurred necessary to comply with this regulation.

1.027 Abandoned Tanks

Underground tanks or storage systems which are abandoned or temporarily out of service must comply with Massachusetts Board of Fire Prevention regulations under 527 CMR 9.22-23. All abandoned tanks must be drained and removed or otherwise brought into compliance with state regulations as specified in 527 CMR 9.22-23.

1.028 Fees for Registration

These permits shall be in addition to any license or permit required by M.G.L., Chapter 148, as amended, or by any regulation issued thereunder. The fee for this permit, payable to the (Town/City) of _____ shall be established by the _____ (Board of Selectmen or City Council).

1.029 Transfer of Ownership

If the ownership of any underground storage system is transferred, the new owner shall notify the Fire Department within ten (10) working days. Any tanks 20 years or older, without cathodic protection or other leak prevention devices, shall be removed at the expense of the seller, under the supervision of the Fire Chief. This provision may be waived if the tank owner can prove, through testing to the satisfaction of the Fire Chief, the tank and piping are tight. If proof of date of installation is not known, the tank will be assumed to be 25 years old.

1.03 REGULATIONS FOR ALL NEW OR REPLACEMENT UNDERGROUND STORAGE SYSTEMS

The following regulations shall apply to all applications for new storage systems containing toxic or hazardous materials.

1.031 Registration of Underground Storage Systems

a. All new or replacement storage systems must comply with the registration procedures in Section 1.022.

1.032 Procedures for Review of Permit Applications

a. The head of the _____ Fire Department is required to send to the Board of Health, the Water Department and the Conservation Commission a copy of every permit application for a new underground storage facility, with a request for a recommendation of approval or disapproval within 30 days.

b. Subsequent to the effective date of this ordinance, no new or replacement underground storage containers shall be installed unless the owner shall have first obtained a permit from the Fire Department. If the Fire Department determines that the proposed storage container constitutes a danger to a water supply, water body, public health or safety, the Fire Department may deny the permit or may grant it subject to conditions which the Department determines are necessary. All new and replacement underground storage tanks, regardless of size, shall meet the requirements of Massachusetts regulations 527 CMR 9.00 regarding tank design, construction and installation.

1.033 Regulations for New or Replacement Storage Systems Within the Water Supply Protection District

Within the _____ Water Supply Protection District designated on the _____ map, the following additional regulations shall apply:

a. New Tanks

(1) No new underground storage tanks shall be allowed within the Water Supply Protection zoning district.

(2) New storage tanks for toxic or hazardous materials other than gasoline shall be located above ground inside a structure or within the basement of a structure, within a impervious bermed containment area sufficient to contain the volume of the tank.

(3) New storage tanks for gasoline are prohibited within the Water Supply Protection zoning district.

b. Replacement of Existing Tanks

(1) All replacement storage systems for gasoline storage tanks existing at the time of adoption of this bylaw be located underground as required by the Massachusetts Building Code.

All such storage systems shall be protected by one of the secondary containment systems specified in Massachusetts Board of Fire Prevention Regulations 527 CMR 9.08(3). The Fire Department, with the advice of the local officials listed in 1.032(a), may set conditions on the installation and use of UST systems storing gasoline which may include, but are not limited to the following:

(a) The tanks and/or piping must have tertiary containment through the use of a buried vault or liner surrounding the tank and/or piping and filled with backfill materials.

(b) The interstitial space monitors must be able to identify vapor, product and water, and alarms from those monitors must be connected to a central point where calls to the police, fire, and water department are automatically made when an alarm sounds.

(c) The spill containment device must have a capacity of between ten and twenty-five gallons.

(d) The area for filling the tanks must be designed to contain a spill of 2700 gallons or the size of one tanker truck compartment, whichever is greater.

(e) The facility must have a spill and leak contingency plan so that all employees know how to safely and rapidly respond to a spill or leak. The plans must be made together with local emergency personnel and the water department.

(f) Safe absorbent material, booms, and other spill containment material must be kept at the facility and all staff must be trained to use them.

(g) Monitoring wells must be installed between the facility and the nearest public wells.

(h) The piping must be, whenever possible, European suction piping as defined in 527 CMR 9.00.

(2) It is strongly recommended that all replacement storage systems for toxic or hazardous materials other than gasoline, which existed at the time of adoption of this bylaw, be located above ground inside a structure or within the basement of a structure, within an impervious bermed containment area sufficient to contain the volume of the tank.

(3) Underground storage tanks for toxic or hazardous materials other than gasoline, which existed at the time of adoption of this bylaw, may be replaced underground provided that the requirements of Section 103-b-(1) above are met.

(4) Above ground tanks must comply with all applicable provisions of 527 CMR 9.00, Massachusetts Board of Fire Prevention regulations.

1.04 REPORT OF LEAKS, SPILLS OR VIOLATIONS

Any person who is aware of a spill of ten gallons or more from any cause, or a loss of product, or unaccounted for increase in consumption which may indicate a leak or violation of this ordinance shall report such spill, loss or increase immediately to the head of the Fire Department, and to the Massachusetts Department of Environmental Protection regional office (or to the State Police if Department of Environmental Protection offices are closed) as required in 527 CMR 9.20, and 310 CMR 40.30.

1.05 ENFORCEMENT

1.051 Any violation of the provisions of this bylaw, the conditions of a permit granted under this bylaw, or any decisions rendered by the Fire Department under this bylaw, shall be liable to a fine of not more than one hundred dollars ($100.00) for each violation. Each day such violation continues shall be deemed a separate offense.

1.052 In addition to the procedures for enforcement as described above, the provisons of this bylaw, the conditions of a permit granted under this bylaw, or any decisions rendered by the Fire Chief under this bylaw, may be enforced, by the Fire Chief, by non-criminal complaint pursuant to the provisions of General Laws, Chapter 40, Section 21D. The fine for any violation disposed of through this procedure shall be one hundred dollars ($100.00) for each offense. Each day such violation continues shall be deemed a separate offense.

1.06 SEVERABILITY

Provisions of this regulation are severable and if any provision hereof shall be held invalid under any circumstances, such invalidity shall not affect any other provisions or circumstances.

0963L/fe
5/7/93

Model Regulation Providing for Septic System Inspection Upon the Transfer of Developed Property

Purpose:

To protect the public from present and potential sources of pollution of the ground and surface waters from existing in-ground sewage disposal systems.

TABLE OF CONTENTS

SECTION

1. Definitions
2. Requirements
3. Determinations
4. Exemptions
5. Severability
6. Enforcement
7. Costs

SECTION 1. DEFINITIONS:

1.1 Developed Property: A parcel of land with a structure(s) erected upon it which has an in-ground sewage disposal system(s).

1.2 In-Ground Sewage Disposal System: Any on-site septic system which disposes of septic wastes through the method of subsurface leaching.

1.3 Inspection: An Inspection shall consist of the following steps:

a. visual inspection of the ground surface around the structure to look for signs of sewage or high groundwater;
b. review of all available records and inquiry to owner, to identify, if possible, the location of the leaching facility and distribution box;
c. review of all available records and inquiry to the owner, to determine, if possible, how often the septic tanks has been pumped during the twelve months preceding the inspection;
d. location of all domestic water supply wells, lakes, ponds, streams, and watercourses, within one hundred feet (100') of the leaching facility if its location can be determined; or, if the location of the leaching facility cannot be determined, within one hundred feet (100') of the septic tank;
e. opening the septic tank and pumping out its contents;
f. personal observation, by a registered professional engineer or registered sanitarian, of the pumping of the septic tank;

g. recording observations of the following:

(1) the amount of septage pumped from the tank;
(2) describing the accumulation of solids found in the tank;
(3) whether or not an outlet tee or baffle is in place in the septic tank;
(4) whether or not an inlet tee or baffle is in place in the septic tank;
(5) whether or not the liquid level in tank, prior to pumping, is above the tank outlet;
(6) whether or not liquid is observed flowing from the outlet back into the tank during or after pumping;

Nothing in the foregoing definition of Inspection is intended to require an engineer or sanitarian to excavate or directly certify the condition of any leaching facility, distribution box, or septic tank inlet/outlet lines. This definition adopts the approach that visual inspection of the property, inspection of any available records, and observation of pumping of the septic tank, together provide a reasonable indicator of the functioning of the septic system. Any opinion or certification provided by the engineer or sanitarian is based solely upon this limited inspection.

1.4 Owner: An Owner is the owner(s) of record as documented by the most recent deed of record in the _____ County Registry of Deeds. In the event ownership is vested in more than one person (including a natural person, corporation, partnership, association, trust or any other legal entity) responsibility for compliance with this regulation shall be joint and several.

1.5 Septic System Inspection Report: A report which includes System Description, Statement of Condition, and Sketch of Location in the format provided by the Board of Health.

1.6 Title 5: The Department of Environmental Protection regulation entitled 310 CMR 15.00: The State Environmental Code, Title 5: Minimum Requirements for the Subsurface Disposal of Sanitary Sewage.

1.7 Transfer of Property: An act by which the title of a property is conveyed from one person to another.

SECTION 2. REQUIREMENTS:

2.1 The owner of a Developed Property in the Town/City shall cause an Inspection of all in-ground sewage disposal systems on the property prior to a Transfer of Property.

2.2 The Inspection shall take place within one hundred and eighty (180) days prior to the Transfer of Property.

2.3 All Inspections must be done by a registered Professional Engineer or registered Sanitarian.

2.4 The Engineer or Sanitarian must submit the results of the Inspection to the Board of Health in the form of a Septic System Inspection Report and send copies to the seller, seller's attorney, seller's real estate broker/salesperson and buyer. The Board of Health must receive the Report within seven (7) days of completion of the Inspection.

2.6 If the Inspection finds evidence of sewage flow on the surface of the ground the Board of Health must be notified within 24 hours.

SECTION 3. DETERMINATIONS:

3.1 The Board of Health will use the information in the Septic System Inspection Report to determine if the system constitutes a danger to the public health.

3.2 The Board of Health shall send a notification to owner within 7 days of the receipt of the Septic System Inspection Report informing him/her whether or not the system must be repaired or replaced. If repair or replacement is necessary, the Board of Health shall designate a reasonable amount of time for it to be completed.

3.3 If the work is not completed within the time designated by the Board of Health, the Board may impose fines in accordance with Chapter 111, Section 31 of the Massachusetts General laws, and/or may repair or replace the system at the expense of the owner, in accordance with Title 5.

SECTION 4. EXEMPTIONS:

4.1 The following properties are exempt from the requirements of this regulation:

a. Properties connected to a private sewage treatment plant.
b. Properties conveyed or devised to a surviving spouse or, in the case of joint ownership, to one of the original owners.
c. Properties with Title 5 systems, which received final inspection approval by the Board of Health within the five (5) years preceding a Transfer of Property, providing the sewage disposal system is adequately sized to accommodate the dwelling(s) on the property according to the latest Board of Health regulations. To qualify for the exemption, a copy of the Disposal Works Construction Permit and/or other evidence showing the date of installation must be submitted in lieu of the Septic System Inspection Report prior to a Transfer of Property.
d. Properties transferred within two (2) years of a prior Inspection, upon approval by the Board of Health. To qualify for this exemption, a copy of the original Septic System Inspection Report and/or notification to owner must be submitted for review prior to a Transfer of Property.
e. Properties where the parties involved in the Transfer of Property intend to replace the existing septic system with a Title 5 system. To qualify for this exemption, the parties must apply in writing showing that they have agreed to the arrangement. A proposed time frame for installation must be submitted and approved of by the Board of Health at the time of application.

SECTION 5. SEVERABILITY:

5.1 Provisions of this regulation are severable and if any provision hereof shall be held invalid under any circumstances, such an invalidity shall not affect any other provisions or circumstances.

SECTION 6. ENFORCEMENT:

6.1 Any Owner who violates any provision of this regulation shall be subject to the penalties provided under MGL Chapter 111, Section 31, as amended. The Board of Health and the Town Counsel shall take action deemed necessary to enforce the provisions of this regulation.

6.2 Seller's real estate brokers and salespersons, and seller's attorneys, prior to the closing, shall be jointly and severally responsible for providing to the buyer the Septic System Inspection Report provided by the regulation. It is the intent of the regulation that failure by any attorney or real estate broker/salesperson to make this required disclosure shall constitute an unfair or deceptive act or practice within the meaning of the Massachusetts Consumer Protection statute (General Laws, Chapter 93A) and the regulations promulgated thereunder by the Attorney General (940 CMR 3.00).

SECTION 7. COSTS:

7.1 In every case, the Owner shall assume the responsibility for all costs incurred in complying with this regulation.

SEPTIC SYSTEM INSPECTION REPORT
(PAGE 1 OF 3)
Statement of Condition

Property Location_____

Property Owner_____

Mailing Address_____

Buyer's Name (if known)_____

Mailing Address_____

THE INSPECTION OF THE SEPTIC SYSTEM REVEALED THE FOLLOWING CONDITIONS WHICH MAY REQUIRE REPAIR OR REPLACEMENT (check ✓ if applicable)

___ There is evidence of sewage flow to the surface of the ground;

___ There is structural damage to the components of the system which prevent it from functioning as required;

___ Available records show an excessive pumping schedule (more than 2 times within the most recent 12 month period).

___ There was sewage backup into the house because of a non-functioning leaching area;

___ The distance from the edge of the leaching area to a well is less than one hundred (100) feet or to a watercourse, swamp or wetland is less than fifty (50) feet;

___ The standing liquid level in the leaching facility(s) is at or above the invert pipe elevation;

___ Other (explain):_____

___ Some of the above conditions could not be determined due to:

___(a) an extended period of non-use; number of months___

___(b) the system was installed prior to the adoption of Title V Regulations

___ None of the above conditions were evident at the time of the inspection.

Comments:_____

_____

Engineer/Sanitarian Signature:_____

Date:_____

Copies: Board of Health
Property Owner
Property Buyer
Seller's Attorney
Seller's Real Estate Broker Salesperson

*PLEASE NOTE THAT THIS PLAN MUST BE STAMPED BY A REGISTERED SANITARIAN OR PROFESSIONAL ENGINEER TO BE VALID.

SEPTIC SYSTEM INSPECTION REPORT
(PAGE 2 OF 3)
System Description

Location of Property

I. Description of Property

RESIDENTIAL

1. Lot Size_____
2. # of Bedrooms_____
3. Total # of Rooms_____
4. Water Using Appliances:
   Dishwater_____
   Garbage Disposal_____
   Washing Machine_____
   Other (explain)_____
5. Year-round Residence_____
6. Seasonal Residence_____

COMMERCIAL

1. Lot Size_____
2. Type of Business_____
3. # of Employees_____
4. # of Bathrooms_____
5. Other Gray Water Discharge
   (explain)_____
   _____
6. Metered Water Usage
   (avg. per year)_____
   _____

---

7. Town Water_____Well Water_____Distance of Well From Leaching Area_____
8. Last 2 Year Pumping Record
   Date Pumped_____Reason_____
   Date Pumped_____Reason_____

II. Description of Septic System

1. Date Installed (if known)_____
2. System was installed under the provisions of Title V. Yes____ No_____
   If yes, copy of Disposal Works Construction Permit is available. Yes____ No_____
   If no, record the best available information (site sketches. owner information)
3. Septic Tank size:_____gallons

III. Result of Inspection of Septic System

1. Amount of septage pumped from the Tank:_____gallons. Date pumped_____
2. Describe accumulation of solids found in the tank:_____
3. Is outlet tee/baffle in place in tank? Yes____ No_____
4. Is inlet tee/baffle in place in tank? Yes____ No_____
5. Unkown (explain)_____
6. Prior to pumping. is liquid level in tank above the tank outlet? Yes___ No_____
7. Unknown (explain)_____
8. Was liquid observed flowing from the outlet back into the tank during or after pumping?
9. Yes____ No____
10. Algal growth: Yes___ No____ Describe:_____
11. Odor? Yes____ No____ Describe:_____

IV. General Comments:

_____
_____
_____
_____
_____

SEPTIC SYSTEM INSPECTION REPORT

(PAGE 3 OF 3)

Sketch of Location

INSTRUCTIONS: Sketch the septic system as it is situated to the following reference points: the dwelling or structure it services, other dwellings on the property, private or public wells within 100 feet, watercources within 250 feet, driveways, the nearest road(s), unique landscape items, etc.

SECTION IV -- OVERLAY DISTRICT REGULATIONS

4.1 WATER SUPPLY PROTECTION DISTRICT

4.10 Purpose of District

To promote the health, safety and welfare of Granville and neighboring communities by protecting and preserving the surface and groundwater resources located in Granville from any use of land or buildings which may reduce the quality or quantity of its water resources.

4.11 Scope of Authority

The Water Supply Protection District is an overlay district and shall be superimposed on the other districts established by this Bylaw. All regulations of the Town of Granville Zoning Bylaw applicable to such underlying districts shall remain in effect, except that where the Water Supply Protection District imposes additional regulations, such regulations shall prevail.

4.12 District Delineation

The Water Supply Protection District is herein established to include all lands within the Town of Granville lying within the watershed areas of reservoirs which now or may in the future provide public water supply. The map entitled "Water Supply Protection District", Town of Granville", on file with the Town Clerk, delineates the boundaries of the district.

Where the bounds delineated are in doubt or in dispute, the burden of proof shall be upon the owner(s) of the land in question to show where they should be properly located. At the request of the owner(s), the Town may engage a professional hydrogeologist to determine more accurately the location and extent of such bounds and shall charge the owner(s) for all or part of the cost of the investigation.

4.13 Prohibited Uses

a. Accessory or other business uses, not agricultural, which manufacture, use, process, store or dispose of hazardous materials or wastes as an integral part of their business activities, including but not limited to wood preserving, furniture stripping, chemical manufacturing, dry cleaning, and auto body repair.

b. Solid waste landfills, dumps, junk and salvage yards.

c. Accessory or other business uses, not agricultural, which involve the on-site disposal of process wastes from operations.

d. Disposal of liquid or leachable wastes, except for residential subsurface waste disposal systems, normal agricultural operations and business uses which involve the on-site disposal of wastes from personal hygiene and food preparation for patrons and employees.

e. Underground storage and/or transmission of petroleum products excluding liquified petroleum gas.

f. Outdoor storage of salt, de-icing materials, pesticides or herbicides.

g. The use of septic system cleaners which contain toxic chemicals, including but not limited to methylene chloride and 1-1-1 trichlorethane.

h. The rendering impervious of more than 20% of the area of any single lot.

4.14 Restricted Uses

a. The use of sodium chloride for ice control shall be minimized on parking lots and roads consistent with public highway safety requirements.

b. Commercial fertilizers, pesticides, herbicides, or other leachable materials shall not be used in amounts which result in groundwater contamination levels exceeding Massachusetts Drinking Water Standards.

c. Above-ground storage tanks for oil, gasoline or other petroleum products shall be placed in a building on a diked, impermeable surface to prevent spills or leaks from reaching groundwater. Floor drains shall be plugged to prevent discharges of leaks.

4.15 Area Regulations

Refer to Section 3.1, Table 2.

4.16 Drainage

All runoff from impervious surfaces shall be recharged on the site by being diverted toward areas covered with vegetation for surface infiltration to the extent possible. Dry wells shall be used only where other methods are infeasible, and shall be preceded by oil, grease and sediment traps to facilitate removal of contamination. All recharge areas shall be permanently maintained in full working order by owner.

4.17 Uses by Special Permit

Uses which are allowed in the underlying district may be allowed in the Water Supply Protection District by Special Permit, obtained from the Board of Appeals. Any enlargement, intensification, or alteration of an existing non-conforming use in the district shall also require a special permit under this section.

a. Requirements for Special Permit in the Water Supply Protection District

The applicant shall file six (6) copies of a site plan prepared by a qualified professional with the Board of Appeals. The site plan shall at a minimum include the following information where pertinent:

(1) A complete list of chemicals, pesticides, fuels and other potentially hazardous materials to be used or stored on the premises in quantities greater than those associated with normal household use.

(2) Those using or storing such hazardous materials shall file a hazardous materials management plan with the Board of Appeals and Board of Health which shall include:

(a) Provisions to protect against the discharge of hazardous materials or wastes to the environment due to spillage, accidental damage, corrosion, leakage or vandalism, including spill containment and clean-up procedures.

(b) Provisions for indoor, secured storage of hazardous materials and wastes with impervious floor surfaces.

(c) Evidence of compliance with the Regulations of the Massachusetts Hazardous Waste Management Act 310 CMR 30.

(3) Drainage recharge features and provisions to prevent loss of recharge.

(4) Provisions to control soil erosion and sedimentation, soil compaction.

b. Procedures for Special Permit in the Water Supply Protection District

(1) The Board of Appeals shall distribute copies of all application materials to the Planning Board, the Board of Health, the Conservation Commission, and the Water Commissioners, each of which shall review the application, and following a vote, shall submit recommendations and comments to the Board of Appeals. Failure of Boards to make recommendations within 45 days of distribution of the applications shall be deemed to be lack of opposition. One copy of the application materials shall be transmitted to or retained by the Town Clerk for viewing by the public during office hours.

(2) After the 35-day period for comment by other Boards and Departments, and after due notice, the Board of Appeals shall hold a public hearing within 65 days on the petition for a Special permit. Such notice and hearing shall be in accordance with the requirements of Section 6.2 of this Bylaw and of Massachusetts General Laws Chapter 40A, Section 11. The Board of Appeals may grant the required special permit only upon finding that the proposed use meets the following standards and those specified in Section 6.3 of this Bylaw. The proposed use must:

(a). in no way, during construction or thereafter, adversely affect the existing or potential quality or quantity of water that is available in the Water Supply Protection District; and,

(b). be designed to avoid substantial disturbance of the soils, topography, drainage, vegetation and other water-related natural characteristics of the site to be developed;

(3) The Board of Appeals shall not grant a special permit under this section unless the petitioner's application materials include, in the Board's opinion, sufficiently detailed, definite and credible information to support positive findings in relation to the standards given in Section 6.3.

APPENDIX G

PUBLIC EDUCATION AND IMPLEMENTATION MATERIAL

Town of Blandford

Massachusetts

Spring 1993

Dear Blandford Resident:

We need your help protecting Blandford's water supply. One of the greatest threats to water supplies is underground storage tanks. Material stored in underground storage tanks, such as gasoline or heating fuel could enter into the groundwater, rivers and streams and ultimately into your drinking water, if the tank leaked. The result could be contaminated drinking water. Drinking contaminated water is not only unhealthy but clean-up of contaminated supplies is extremely costly both to the town and the tank owner, who is liable for the cost of the clean-up.

Many tank owners forget about their tanks once they install them in the ground. Out of sight is out of mind. We ask that you take a few moments to study the accompanying information about the hazards of underground storage tanks, the seriousness of the problem, steps you can take to prevent tank leakage and the estimated costs for tank removal or spill clean-up. As the information indicates, your underground storage tank is a problem waiting to happen, it's just a matter of time.

If your tank is older than 15-20 years, or you don't know how old it is, we urge you to consider removing your underground tank immediately. You can replace it with one in your cellar or an above-ground tank in a covered, enclosed area. If your tank is 8-15 years old, you should be making plans to remove it in the near future. While these measures appear expensive they are much less expensive than if a leak occurs or your health, or the health of your neighbor is jeopardized.

Sincerely,
Blandford Water Supply Protection Advisory Committee Members

Robert Deane
Board of Selectmen

Paul Kvitek
Board of Water Commissioners

Richard Hamel
Planning Board

Donald Brainard
Conservation Commission

Neil Woodborn
Planning Board

Theodore Jensen
Board of Selectmen

James Heinrich
Water Superintendent

Ronald Champagne
Board of Health

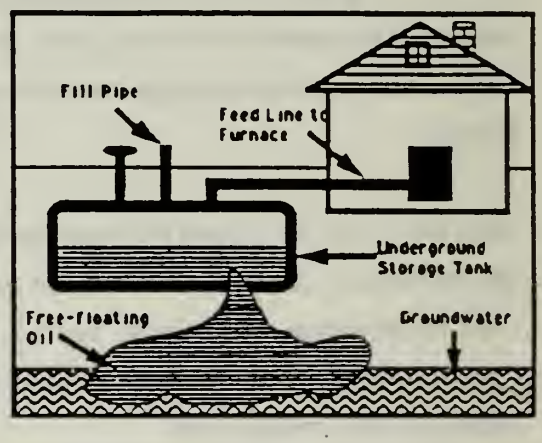
I-blust doc Blandford.2'18'93

the problem with

UNDERGROUND STORAGE TANKS

If you own an Underground Storage Tank (UST) whether it is a heating oil tank located in the back yard, cellar, or garage, or a gas tank used for agricultural, commercial, or industrial use you could be headed for trouble. Your tank is a potential source of water contamination, especially groundwater, because it could be leaking. Leaking USTs pose one of the most significant threats to the overall quality of drinking water supplies in the United States.

Groundwater = Drinking Water



Groundwater is an important resource for Massachusetts' residents. Groundwater supplies over 30% of Massachusetts' residents with drinking water. Blandford's residents are supplied, in part, by groundwater. Groundwater supplies all of the private wells in Blandford. Groundwater also feeds rivers, lakes, ponds and wetlands which, in turn, supply reservoirs. Contaminated groundwater could enter surface water and contaminate reservoirs used for drinking water.

The Magnitude of the Problem

There are millions of USTs in the country, perhaps as many as 10 million. There are more than 40,000 commercial USTs in Massachusetts alone, and an untold amount of home heating oil USTs (no one really knows how many small, unregistered home heating oil tanks there are).

The Massachusetts Department of Environmental Protection estimates that between 10% to 35% of all USTs leak. A leak of one gallon of fuel can contaminate one million gallons of water. If only one gallon of fuel were to leak from just 10% of Massachusetts' commercial tanks 4 billion gallons of water could be contaminated.

Leaking USTs can make wells completely unusable. Since 1960, 117 public water supplies, affecting 74 Massachusetts communities, have been contaminated. Fifteen public water supply wells in Massachusetts have been closed due to contamination from leaking USTs. Contamination is not something that can be easily fixed. Contaminated water supplies can be damaged for decades. Restoration of a badly contaminated water supply, if it is technically feasible at all, is time consuming, and expensive. It cost more than 4 million dollars and took 8 years to clean-up a contaminated site, resulting from a UST leak, which closed the Town of Providence's well. Cohasset's Lily Pond Reservoir was contaminated by a leaky UST and temporarily removed from service. Health risks associated with water supplies contaminated by petroleum products, such as gasoline, include anemia, nervous system disorders, kidney disease, cancer, and lead poisoning.

It pays to take your underground storage system seriously now and invest the time and precautionary measures necessary to avoid a major problem.

The Environmental Protection Agency recently conducted a study in Suffolk County, New York which shows:

- Of 500 single-walled steel tanks that were removed, 30% had perforations.
- Smaller tanks (under 5,000 gallons) have an even higher probability of leakage because they are generally of thinner gauge steel.
- Single-walled, bare steel, unprotected tanks over age 20 have a high probability for developing leaks, due generally to corrosion. Leaks are also caused by loose fittings, faulty installation, or physical breakage.

Prepared by the Pioneer Valley Planning Commission *January 1993*

The Costs of Inaction

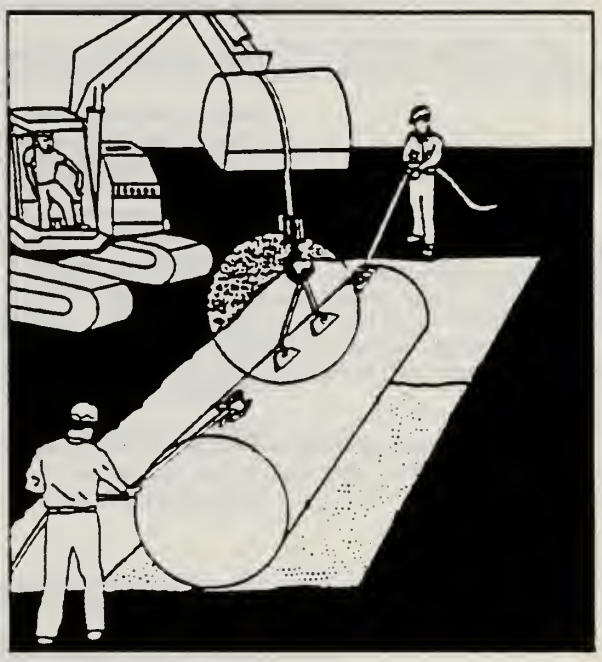
Leaking underground storage systems can be costly and may affect many people. Simply defining the extent of a contamination problem can cost $25,000 to $250,000. A leak caught early and still within the property boundary may cost between $10,000 and $30,000 to clean up. Depending on site specific conditions, the cost of a leak migrating beyond property boundaries can soar into millions of dollars for clean up and reparations. Litigation may double these costs.

New state laws will require that existing USTs be upgraded. Leak detection devices must be installed for large commercial tanks. By May 1993 all fuel oil tanks must be retrofitted with overflow devices. Fuel tanks over 1,100 gallons must be retrofitted with a spill container, such as a containment manhole, designed to hold 3 gallons.

Prevention is the Best Cure. Steps a Tank Owner Can Take.

Tank Removal:

The best action a tank owner can take is to have a UST removed especially bare steel tanks over 20 years old. Depending on tank location and size it could cost approximately $1,000 or more to remove a UST. While this seems like a lot of money, it is only a small percentage of clean-up costs, even for a small leak. IMPORTANT: State law (527 CMR 9) requires that tanks be tested or removed only under the direction of the local fire department and disposed of in approved locations. (A tank can be filled with concrete only if the tank is under a building, or next to another operating tank.) Tanks that are "temporarily out of service" (for 6 months or more) are especially apt to develop leaks because they may fill with water; therefore they may not be refilled without approval by the Fire Chief.



Other Leak Prevention Tips:

If you can't have your tank removed there are other leak prevention steps you can take.

- Check your heating system, even after professional repairs.
- Inspect the tank, lines, vent pipe and rainwater cap, and replace any rusted, aging or damaged parts.
- Install an overfill warning device on the tank if it doesn't have one.
- Call your oil company if you notice a sudden or dramatic increase in fuel use that can't be explained.

Many banks now require that tanks be removed before granting a mortgage, further evidence of the magnitude of this issue. Municipal officials should learn the location of all storage tanks within their town and develop a strategy for the protection and management of community drinking water resources.

Local Efforts to Protect Groundwater

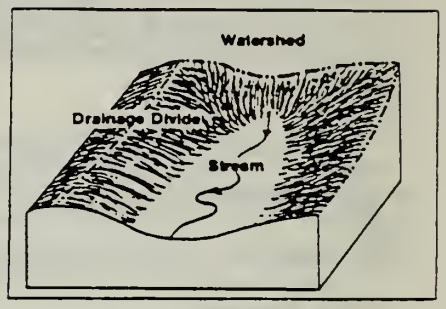
Since October 1992 Blandford's Water Supply Protection Advisory Committee has been working, with technical assistance provided by the Pioneer Valley Planning Commission, to develop a comprehensive water supply protection strategy for Blandford's water supply resources. One recommendation being considered is to prohibit the installation of new underground storage tanks in Blandford, especially in areas crucial to drinking water supplies.

For further information contact the Pioneer Valley Planning Commission, 781-6045.

IMPORTANT INFORMATION FOR ALL BLANDFORD RESIDENTS

WATERSHED PROTECTION AND DRINKING WATER

WHAT IS A WATERSHED?



A watershed, also called drainage basin, is the land area that drains runoff, or rain water that does not get absorbed into the ground, into a stream or other surface water body. Watershed boundaries, also called drainage divides, are the high lands that divide one watershed from another. Groundwater is water beneath the surface of the ground that percolates through the soil and fills the spaces, pores, and cracks in the sands, gravel , and fractured rock beneath the soil layer. Groundwater moves slowly through the ground to discharge areas where it enters surface water. All rain water that falls in a watershed for a public drinking water supply reservoir, which is not absorbed or evaporated, ends up in that reservoir, either through groundwater and/or surface water.

WHY IS WATERSHED PROTECTION NECESSARY?

Surface water and groundwater can, and has, become contaminated, especially from land use development and activities occurring in the watershed. Contaminants enter water sources when they run-off the land's surface and enter lakes, streams, or rivers or percolate down to the groundwater. As of June 1992, 175 water supply sources in 74 different Massachusetts' communities have been contaminated, 117 have been closed. Twelve different water supply sources in western Massachusetts have been closed affecting 10 communities, including Amherst, Deerfield, Easthampton, Holyoke, Palmer, West Springfield, Westfield .

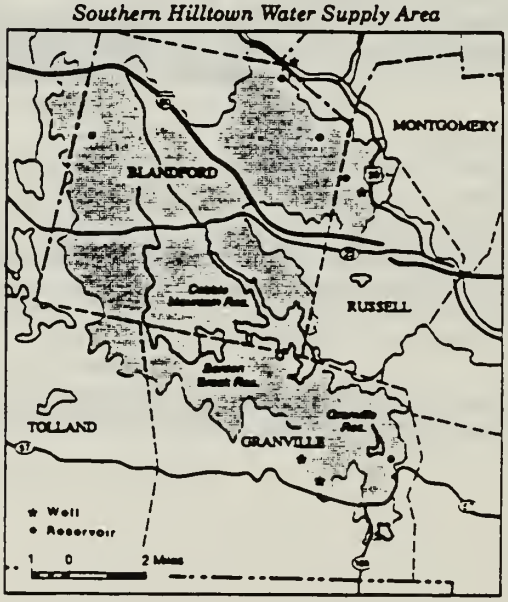
WHY IS WATER SUPPLY PROTECTION IMPORTANT TO BLANDFORD?

Blandford residents rely on their drinking water from two sources: the Long Pond Reservoir which serves the homes in the center of town and private wells located on individual properties.
LONG POND RESERVOIR - Blandford received a conditional waiver from a strict US E.P.A. requirement to build a very expensive filtration plant. This waiver is contingent upon Blandford taking strong actions to protect its water supply. Without these measures Blandford residents could be required to spend a large sum of money to build a filtration plant.
PRIVATE WELLS - Private wells are as susceptible to water supply contamination as are public sources. As yet, there are no regular testing requirements for private wells. In fact, private wells may be more susceptible to contamination, especially from low, incremental levels of contaminants.
SEPTIC SYSTEMS - All Blandford homes process their waste water by on-site septic systems. A malfunctioning septic system, especially in close proximity to a private well and cause serious and expensive consequences.
USTs - Over 60% of Blandford homes heat with oil. There may be a large number of underground storage tanks in Blandford.

WHY IS REGIONAL WATER SUPPLY PROTECTION IMPORTANT TO BLANDFORD?

Watersheds for reservoirs supplying Springfield's Regional Water Distribution System, Westfield, Russell and the recharge area for Huntington's well are located in Blandford. These water supplies serve approximately 283,000 residents of Agawam, East Longmeadow, Huntington, Longmeadow, Russell, Springfield, Southwick (partial), Westfield, and West Springfield (emergency). In addition, if you are one of the 60% of Blandford's residents who work in these communities you probably drink water that originally came from Blandford. The Safe Drinking Water Act, adopted by Congress in 1974 and since amended, most notably in 1986, sets national standards for drinking water quality. This guarantees, as part of the national interest, that no matter where you go you receive safe, clean, healthy drinking water. Regional water supply protection fosters that national goal.

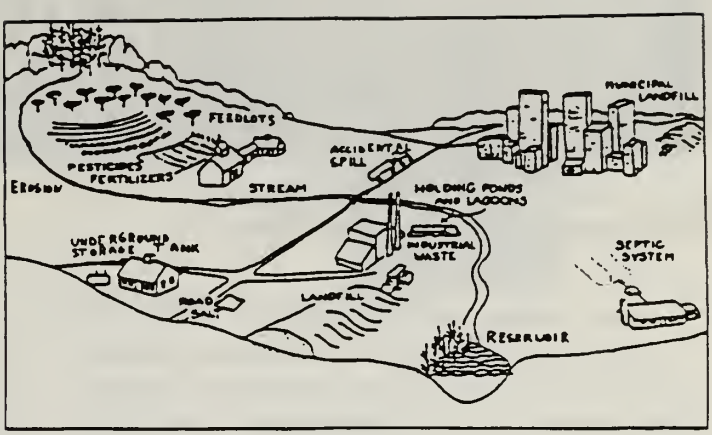
Southern Hilltown Water Supply Area



WHAT ARE COMMON SOURCES OF WATER SUPPLY CONTAMINATION AND WHY ARE THEY HARMFUL?

The U.S. Environmental Protection Agency (EPA) has established Maximum Contamination Levels for hundreds of potentially harmful materials. Levels below the established maximums are thought to be safe for human consumption. Levels above the established maximums have been shown to be potentially harmful to human health. No one is certain about the long term effects of even very small

amounts of contaminants. Some of the more common potential land use contaminants are:



SEPTIC SYSTEMS AND CESS-POOLS - Poorly designed, sited, constructed or maintained on-site sewage disposal systems can release bacteria, viruses, nitrates, and household chemicals into water supplies. Excessive nitrate concentrations can cause methemoglobinemia, a blood disease impairing the ability of the blood to carry oxygen, which can be fatal to babies.

UNDERGROUND STORAGE TANKS - Underground storage tanks (USTs), especially those over 20 years old, have a high probability of developing leaks due to corrosive soil conditions, scratched surfaces, or faulty piping connections. Abandoned tanks may be slowly leaking. Petroleum products, such as benzene (a known carcinogen), toluene, xylene, methanol, ethanol, can cause central nervous disorders. High level benzene exposure can cause tremors, abnormal respiration, paralysis, and unconsciousness.

ROADSALT - Improper storage or excessive application of roadsalt has resulted in high sodium and chloride levels in numerous wells in the Pioneer Valley. High sodium levels are related to high blood pressure.

LANDFILLS AND JUNKYARDS - Rain falling on unlined landfills, dumps (including illegal dumps), and junkyards combines with hazardous materials and heavy metal compounds to form toxic leachate. Leachate from landfills can contain a potpourri of toxic materials.

FERTILIZERS AND MANURE APPLICATIONS - Excessive applications of fertilizers to lawns, gardens, or crops or high concentrations of manure can elevate nitrate levels. In addition to methemoglobinemia excessive nitrate levels have been correlated with high colon cancer levels.

PESTICIDES AND HERBICIDES- Toxic chemicals applied to lawns, gardens, railroad and power line rights-of-way, and croplands can enter into water supplies. Pesticides are currently heavily regulated. However, if not properly applied, stored, and disposed of pesticides can contaminate drinking water. Traces of pesticides, such as Alachlor, Aldicarb, Dinoseb, EDB, Carbofuran, Oxamyl, 1 2-D, and 1 3- D have been found in Massachusetts' water supplies. One group of pesticides, called carbamates, can affect the central nervous system and cause spasms, vomiting, headaches, temporary paralysis, blurred vision, and seizures. The use of home spray applicators attached to garden hoses could result in a back flow to home drinking water supplies and should only be used with a check valve in the water line.

HAZARDOUS MATERIALS AND HAZARDOUS WASTES - A wide range of hazardous materials such as organic solvents, heavy metals, phenols, sulfates, acids associated with industrial uses, cleansing agents, laboratories can also contaminate water supplies.

HOW CAN YOU HELP?

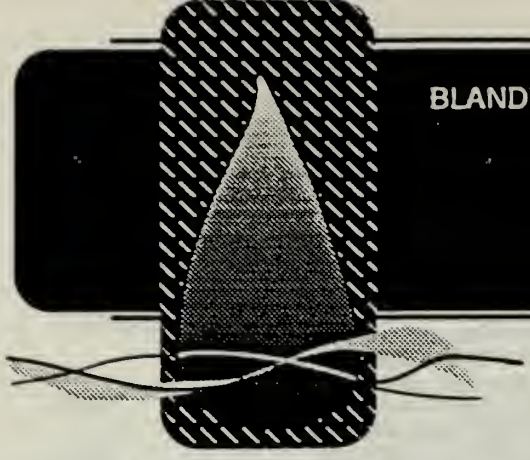
Here are some ways you can help protect drinking water supplies:

SUPPORT WATER SUPPLY PROTECTION MEASURES AT TOWN MEETING

- Don't drain your car's used oil on the ground or in a street storm drain. Bring used oil, with a sales receipt, to service stations or auto dealerships which have waste oil storage facilities or bring it to Blandford's landfill for recycling.
- Avoid use of chemical pesticides or fertilizers on your lawn and garden. Remember that excess will be washed through the soil and into the water supply. Use pesticides only in accordance with the manufacturer's label instructions.
- Keep your septic system in good working order. Have the system pumped out regularly, preferably every two years, and have it inspected for signs of maintenance needs. Avoid putting solids or chemicals down the drain. Don't use septic system cleaners. The use of a garbage disposal requires more frequent septic system pumping.
- Use sand instead of salt for snow removal on driveways or sidewalks.
- Check your underground storage tank (UST) for leaks. Check the level of oil in the tank with delivery information to detect possible leaks. Tanks not regulated by state law (less than 1,100 gallons), which are over 20 years old, should be removed because of the potential for costly leaks. Immediately remove tanks suspected of leaking.
- Don't use watershed land as an illegal dump. Dispose of refuse, building debris, auto parts in the proper locations.
- Water Conservation reduces the demand on ground and surface water resources, and allows septic systems to function better and longer. Install reduced-flow shower heads and faucet aerators. New low-flow toilets use 1.6 gallons, instead of 3.5 or 7 gallons.
- Support and use Household Hazardous Waste Collections.

Call the Pioneer Valley Planning Commission at 781-6045 for additional information !

PREPARED BY THE PIONEER VALLEY PLANNING COMMISSION SPRING 1993



BLANDFORD WATER SUPPLY PROTECTION ADVISORY COMMITTEE

FACT SHEET

Water Supply Protection Strategies

Safe drinking water for the future

The Blandford Water Supply Protection Advisory Committee, a representative committee of town Board members and officials, developed a comprehensive strategy to protect drinking water supplies in the Town of Blandford. After carefully considering a long list of options, the Committee recommended the following strategies:

- **Underground Storage System Regulations**
- **Water Supply Protection District Zoning Bylaw**
- **Selected Land Acquisition**
- **Greater Regional Cooperation**

This fact sheet and enclosed informational flyer are intended to inform Blandford residents about the strategies. Complete copies of the proposed Zoning Bylaw and proposed Underground Storage System regulations are available at the town office, the Post Office and Blandford General Store for public review.

Further information is available from Paul Kvitek, Committee Chairman (848-2098), Don Brainerd (848-2108), or Tom Matuszko, of the Pioneer Valley Planning Commission (781-6045), who served as a consultant to the Committee.

Strategy: 1

UNDERGROUND STORAGE SYSTEM REGULATIONS

Goal: ***To prevent leaking underground storage tanks, which could pollute water supplies and endanger health and safety. To provide for the proper construction, installation, and maintenance of new tanks.***

Why is the Strategy Needed:

Leaky underground storage tanks (USTs) are one of the greatest contamination threats to drinking water supplies. Fifteen public drinking water supplies and over 50 private wells have been contaminated and closed in Massachusetts by leaking USTs. In addition to health risks, leaking UST's are extremely expensive to clean up. One of the biggest problems with UST's is that until recently small tanks used primarily for heating purposes did not require a permit. Consequently there are no good records about the number and age of tanks in a municipality.

How Does the Strategy Work:

The underground storage system regulations proposed for Blandford, if approved by a majority of town meeting voters, would require all current owners of USTs to register their tanks with the Blandford fire chief, regardless of the size or content of the tank. The installation of new tanks for home heating oil use would be required to be in a covered structure above ground, or in a basement, not buried in the ground. In sensitive drinking water supply areas the replacement of existing tanks for home heating oil use would be required to be in a covered structure above ground or in the basement, not buried in the ground. The replacement of underground tanks for gasoline in sensitive water supply areas would be allowed, consistent with existing state standards. New underground tanks for gasoline in sensitive water supply areas would be prohibited. Upon the transfer of property underground tanks greater than 20 years of age would be required to removed. No other existing underground tanks would be required to be removed.

Strategy: 2

WATER SUPPLY PROTECTION ZONING

Goal: ***To promote personal health, safety, and welfare by protecting drinking water sup plies through control of certain potentially hazardous land uses.***

Why is the Strategy Needed:

A continual supply of clean, safe water is vital for the health and safety of Blandford's residents. Potentially hazardous land use activities such as industrial uses, gas stations, landfills, junkyards, outdoor storage of salt or pesticides occurring in drainage or recharge areas are threats to public and private water supplies. Reasonable regulations can control potentially hazardous land uses. It's especially important to protect Blandford's Long Pond Reservoir in order to avoid a costly (estimated over 1 million dollars) filtration system. The proposed bylaw makes changes recommended by the Mass. Department of Environmental Protection to the existing Blandford bylaw to allow Blandford to avoid filtration. In addition, this bylaw will protect the quality of drinking water for Blandford Residents with private wells as well as the hundreds of thousands of people who depend on regional water supplies.

How Does the Strategy Work?

The Water Supply Protection Zoning Bylaw proposed for Blandford must be approved by a two thirds majority of town meeting voters. It would only apply to new uses in sensitive water supply areas in town and would not effect existing uses. The proposed bylaw prohibits certain new hazardous land uses such as landfills, dumps, junk yards, hazardous waste storage and generation in identified important water supply areas. Except within areas very close to reservoirs it would not prohibit the development of new homes. The proposed bylaw specifies some common sense development standards for new development designed to reduce run-off. New permitted commercial and industrial uses would need a special permit in sensitive areas. A setback, similar to a setback from a road, would be required from streams which supply reservoirs.

Strategy: 3

SELECTED ACQUISITION OF IMPORTANT LAND PARCELS

Goal: ***To provide maximum water supply protection through land ownership.***

Why is the Strategy Needed:

The entire watershed for the Long Pond Reservoir in Blandford is owned by Blandford or the Springfield Water Department. Approximately 86 acres of the watershed lie in Otis, in private ownership. Currently there are several lots for sale and under development along Gibbs Road in Otis. Development of this land could jeopardize Blandford's waiver from the U.S. EPA filtration requirement.

How Does the Strategy Work?

Land acquired for water supply purposes would be protected from development.

Strategy: 4

GREATER REGIONAL COOPERATION

Goal: ***To provide a high quality of water for area communities through cooperative action.***

Why is the Strategy Needed:

In addition to the public supplies and private wells of Blandford, the Town is an important water supply area for Russell, Huntington, and the 280,000 people served by the Springfield Regional network. Cooperation between communities can be beneficial to communities and residents alike.

How Does the Strategy Work?

Blandford would pursue a closer working relationship with Springfield on water supply protection issues through regular contact with Springfield officials.

DRINKING WATER FACTS

Water is the Key to Life:

Humans and animals depend on water. Sixty to seventy percent of the human body is made up of water. Each of the 100 trillion or so cells in the human body is bathed in a water based fluid. The blood traveling through the 60,000 to 70,000 miles of arteries and veins in the body is based on water. Water is so essential to life that the body cannot survive more than 5 days without it.

Safe, clean, good tasting water is essential for good health.

Blandford's Water Supplies are Excellent:

Blandford residents are fortunate to have an ample supply of high quality, healthy drinking water. Water from the reservoir or well in your back yard is most likely providing you with safe, clean drinking water. Most likely you will continue to receive a safe supply of drinking water long into the future.

Human Activities Affect Water Supplies:

With simple, common sense land management practices and activities water supplies remain pure and drinkable. However, with poor "land stewardship" and in-appropriate activities water supplies can become contaminated and unusable. Contaminated drinking water supplies are a threat to good health.

IMPORTANT NOTICE!
A public educational hearing will he held at xxxxxxxxxxxx in xxxxxxxxxxxxxxxxxxxx at the Blandford Town Office Building to discuss the recommendations of the Committee

prepared by the
Pioneer Valley Planning Commission
in cooperation with the
Blandford Water Supply
Protection Advisory
Committee

WATER matters

Safe drinking water for the future

BlandfordWater Supply Protection Advisory Committee:

The Blandford Water Supply Protection Advisory Committee, composed of Blandford residents, was formed to address water supply protection concerns specific to Blandford. The purpose of the Committee is to make sure Blandford residents have an ample supply of clean safe drinking water now and into the future. With technical assistance provided by the Pioneer Valley Planning Commission , the Committee developed a comprehensive strategy to protect drinking water supplies. Over the next few months the Committee will be soliciting public comment about the strategy before brnging it to town meeting for adoption.

The Blandford Water Supply Protection Advisory Committee meets regularly. Interested residents are encourage to participate. Call Tom Matuszko at PVPC (781-6045), Paul Kuitek (848-2098), or Don Brainerd for more information.

DRAFT - FOR DISCUSSION PURPOSES ONLY

PRESS RELEASE - FOR IMMEDIATE RELEASE _____, 1992

WATER SUPPLY PROTECTION STRATEGY DEVELOPED FOR RUSSELL

The Russell Water Supply Advisory Committee has recently developed a water supply protection strategy for Russell. The advisory committee, with representatives from the Planning Board, Board of Selectmen, Water Commissioners and Conservation Commission, has created a coordinated strategy to protect the water supplies of Russell. Russell is one of the few communities in the region without protective measures for their water supplies.

In Russell the public water supply system serves approximately 80% of the Town's population. There are two Russell water supply sources, the Black Brook Reservoir and Well #1. The Black Brook Reservoir, which is the main source of supply, is located in Blandford in the northeast corner of town. Well #1 is located off Route 20 between Pine Hill Road and West Main Street.

The key part of the strategy includes a water supply protection district zoning bylaw..

The water supply protection zoning district is based on a map showing the recharge and watershed areas for Russell's public supplies. This proposed bylaw, which would become part of the town's zoning bylaws, would prohibit certain hazardous land uses and impose certain conditions on other potentially hazardous land uses in the designated district.

As a proposed zoning bylaw amendment, this would require a public hearing and a two-thirds vote by town meeting before coming effective.

A public hearing is scheduled for _____(date) 1992 at _____p.m. (time) at _____ (location) to give the Planning board an opportunity to present the proposed bylaw to the public. The public is encouraged to attend.

For additional information, contact Sharon Harrison, Planning Board Chair, _____ (Tel. #), or Thomas Matuszko, Pioneer Valley Planning Commission at 781-6045. (The Pioneer Valley Planning Commission serves as consultant to the Advisory Committee).

(to be released prior to the public hearing)

(to be released to the:

Westfield Evening News
Springfield Union News
Country Journal)

TM/fe:0933L

PROTECTING RUSSELL'S WATER SUPPLY

WHERE DOES YOUR DRINKING WATER COME FROM?

In Russell the public water supply system serves approximately 80% of the town's population. There are two Russell water supply sources, Black Brook Reservoir and Well #1. Black Brook Reservoir, the main source of supply, is located in Blandford. Well #1 is located off Route 20 between Pine Hill Road and West Main Street.

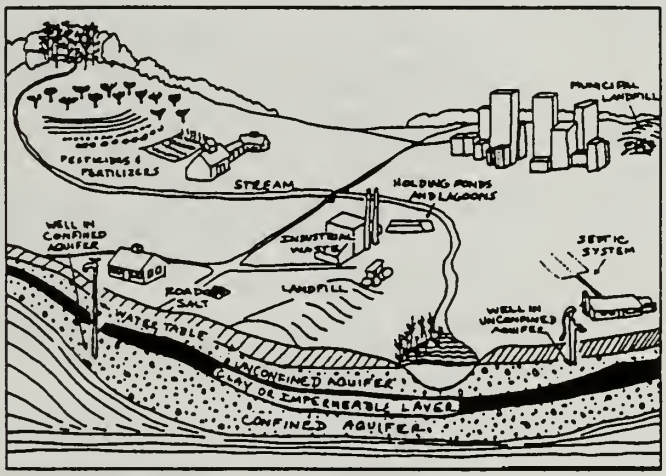
Russell's primary aquifer recharge areas are composed of geologic deposits of course grained stratified drift (i.e. sand and gravel). Additional water is recharged from secondary recharge areas, which are generally upland areas composed of till and bedrock, where run-off drains toward primary aquifer recharge areas.

WHAT IS GROUNDWATER?

Groundwater is water that percolates through the soil and fills the spaces and cracks in sands, gravels, and fractured rock beneath the soil layer. The top of the saturated zone is the water table. An area capable of yielding enough water to supply a public well is called an AQUIFER.

HOW IS GROUNDWATER RECHARGED?

Groundwater is recharged by rainfall, melted snow, and other surface waters which slowly filter through the soil and eventually reach the aquifer. Harmful chemicals can also move through soil and rocks into groundwater. Impervious surfaces such as buildings, parking areas, driveways and roads prevent rainfall from seeping into the soil and recharging the aquifer. Excessive development in aquifer recharge areas can reduce the groundwater supplies available for use. In Russell, the aquifer recharge area extends beneath a large section of the town center, where most of Russell's development is located.



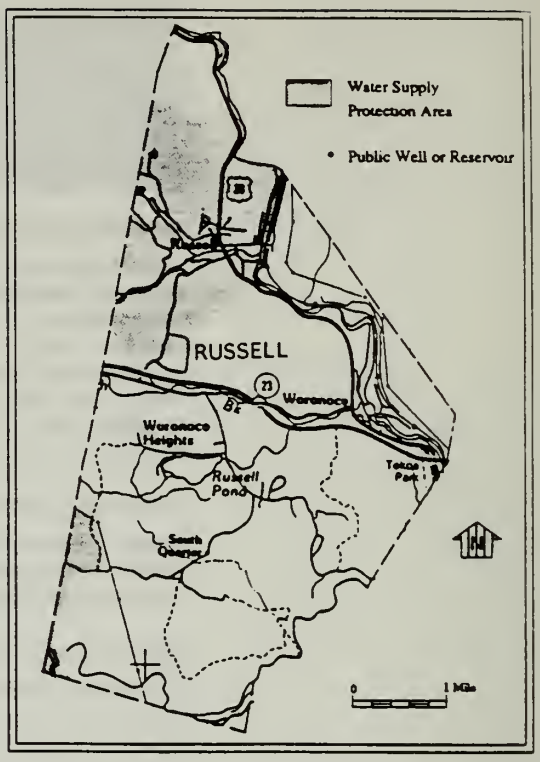
WHAT ARE SOURCES OF WATER SUPPLY CONTAMINATION?

Water supplies, especially groundwater, are quite vulnerable to contamination. It may take generations for polluted water supplies to cleanse themselves or may cost millions of dollars for treatment plants. In some instances contaminated water supplies can never be used again, requiring the development of new sources of supply, also a large expense. To date, at least 65 communities in Massachusetts, almost 20% of all communities in the state, have closed at least one well supply due to contamination. The Hampden and Hampshire County communities of Westfield, West Springfield, Easthampton, Palmer, and Amherst have recently closed contaminated public wells. It has already cost Easthampton $250,000 in consultant fees to study the sources of contamination and will cost Easthampton an estimated 2 million dollars for a treatment facility. Common sources of contamination are:

- PESTICIDES AND HERBICIDES - Chemicals, such as those applied to farmlands, lawns, gardens, railroads and power lines to kill weeds and pests have been discovered in many water supplies.
- HAZARDOUS WASTES, WASTE OIL - Toxic chemicals such as solvents, pesticides and oil which are improperly stored or disposed of have polluted wells.
- LANDFILLS AND JUNKYARDS - Rain falling on unlined landfills, dumps and junkyards combines with hazardous chemicals and heavy metal compounds to form toxic leachate.
- SEPTIC SYSTEMS - A malfunctioning septic system can release excessive nitrates into the groundwater.

prepared by the Pioneer Valley Planning Commission *April 1992*

• ROADSALT - Improper storage or excessive application of roadsalt has resulted in high sodium and chloride levels in numerous wells in the area.
• UNDERGROUND STORAGE TANKS - Uncoated steel tanks, especially those over 20 years old, have a high probability of leaking due to corrosive soil conditions, scratched surfaces from metal dipstick testing or stones encountered during installation, or faulty connections in the piping from the tank, possibly because of proximity to fluctuating groundwater level. A small amount of fuel can poison thousands of gallons of water. Abandoned tanks may be slowly leaking as well.



HOW CAN RUSSELL'S WATER SUPPLIES BE PROTECTED?

The most effective way to protect Russell's water supplies is to prevent contamination. Russell has maintained a groundwater supply free from quality problems. However, water from the reservoir has not met the Massachusetts' Department of Environmental Protection requirements for turbidity, (which means the water is "cloudy" due to material suspended in the water). Unless the turbidity problem is corrected the well supply could become a more important supply source.

The most practical way to protect water supply resources is by adopting and enforcing municipal bylaws which regulate human activities that could pollute the water supply. A Russell Water Supply Protection Advisory Committee developed the following water supply protection strategy:

The Water Supply Protection Zoning Bylaw establishes a zoning overlay district in the aquifer recharge and watershed areas. Within the overlay district uses of land which pose little or no threat to the quantity or quality of ground or surface water (e.g. non-polluting business or low-density houselots) would be permitted. Additional criteria for development would be established for uses which would pose a moderate threat to water supplies (e.g. commercial amounts of fertilizers would be required to be stored under cover to prevent run-off). Those land uses with the potential to adversely affect the water supply, (e.g. metal plating industries) would be prohibited within this district. Within this district new underground storage tanks would also be prohibited.

HOW CAN YOU HELP?

Regulations are only effective if individuals recognize that water supplies are vital and vulnerable resources that must be treated with care. There are many ways you can help protect your water supply. Here are some of the ways you can help:

SUPPORT WATER SUPPLY PROTECTION MEASURES AT TOWN MEETING

- Don't drain your car's used oil into the ground or into a storm drain in the street. Bring your used oil, with your sales receipt, to service stations or auto dealerships which have storage facilities for waste oil, or to the town collection site at the transfer station.
- Avoid use of chemical pesticides or fertilizers on your lawn and garden. If you must apply chemical pesticides or fertilizers use extreme caution and minimum amounts. Remember that excess will be washed through the soil and into the water supply. Call the Mass. Pesticide Bureau (617 727-7712) to report misuse or carelessness by lawn care companies.
- Keep your septic system in good working order. Have it regularly inspected for signs requiring maintenance. Have the system pumped regularly, preferably every two years. Avoid putting solids or chemicals down the drain. Don't use septic system cleaners which contain toxic chemicals. Remove your garbage disposal or keep disposal use to a minimum.
- Use sand instead of salt for snow removal on driveways or sidewalks.
- Register your underground storage tank with the Fire Department. Have the tank tested for leaks. Check the level of oil with delivery information to detect any possible leaks.
- Water conservation reduces the demand on water supplies, reduces the burden on sewage treat ment plants, and allows septic systems to function better and longer. Fix Plumbing leaks. If outdoor watering is necessary do it in the morning or evening. Install reduced-flow shower heads and faucet aerators. New low-flow toilets use 1.6 gallons, instead of 3.5 or 7 gallons. Call a plumber or a plumbing supply store for information.